BF
385
·L65

Price 50 Cents.

MEMORY

A SCIENTIFIC PRACTICAL METHOD OF

CULTIVATING THE FACULTIES OF

ATTENTION,

RECOLLECTION

AND RETENTION

BY A. LOISETTE.

"There is no hesitation in thoroughly recommending the System
to all who are earnest in wishing to train the memories effect-
ively."—RICHARD A. PROCTOR.
"His system greatly strengthened and improved my natural
memory."—WILLIAM WALDORF ASTOR.

NEW YORK
PRINTED FOR THE PUBLISHERS.
1885.

Class B

Book

MEMORY

A SCIENTIFIC PRACTICAL METHOD OF CULTIVATING THE FACULTIES OF

ATTENTION,

RECOLLECTION

AND

RETENTION

By A. LOISETTE.

"I have no hesitation in thoroughly recommending the System to all who are earnest in wishing to train their memories effectively."—RICHARD A. PROCTOR.

"Its use has greatly strengthened and improved my natural memory."—WILLIAM WALDORF ASTOR.

NEW YORK:
PRINTED FOR THE PUBLISHERS.
1895.

BF385
.L65

143477

09

N 7 4 4 0 7

CONTENTS.

PAGE

PART I.

Recollective Analysis. Defective Memory. Lack of Attention 1

First Exercise: Three Laws of Recollective Analysis 3

Second Exercise: Presidential Series . 4

Third Exercise: "Dough-Dodo" Series . 14

Heptarchy Series 16

Of Learning by Rote. 18

PART II.

Supplement to Recollective Analysis . .

First Exercise: Figure Alphabet . . 21

Second Exercise: Translating Words into Figures 23

Third Exercise: Translating Words into Figures 24

Fourth Exercise: The Knight's Tour, The Presidential and Heptarchy Series, Turning Figures into Words . . . 26

Fifth Exercise: Interrogative Analysis . 32

PART III.

Recollective Synthesis 14

CONTENTS.

	Rules for Making Correlations . . .	44
	Connecting Isolated Facts	46
	Connecting Unfamiliar Words . . .	48
	Connecting Serial Facts	58
	Learning the Morse Alphabet . . .	61
PART IV.		
	Predicating Correlations	66
	Oxford and Cambridge Boat Races . .	68
	Ratio of Circumference to Diameter . .	71
	Memorising Prose and Poetry . . .	78
	Interrogative Analysis	81
	Surprising Figure Memory	87
	Pharmaceutical Preparations	88
PART V.		
	The Instantaneous Gordian Knot . . .	95
	Memory Almanac	97
	Day-of-week of any date	100
	The Higher Analysis and Syntheiss . .	101
	Memorising Months and Days. . . .	104
	Series of Roman Emperors	106
	Memorising Euclid's Propositions . .	107
	Memorising Various Facts	111
	Multiplication Table	113
PART VI		
	Never Forgetting . , ...	123
	How to Learn History	137
	Speaking without Notes	142
	Feats of Recollection	146
	A Budget of Anecdotes etc.	149

PART I.

RECOLLECTIVE ANALYSIS.

DEFECTIVE MEMORY. LACK OF ATTENTION.

There are in Memory two stages: (1) The stage of the First Impression (through the senses of sight, hearing, etc., or by whatever agency an idea is presented to the mind); (2) The revival of that impression afterward. Both stages are equally essential to a good memory, but in the present work we shall have to do chiefly with the second, the purpose of this system being to show how (due vividness of Impression being assumed) the process of Revival (recalling, recollection) may be facilitated and made as it were automatic. With regard to Impression it will suffice here to note the one great cause which in most persons renders it defective—Lack of attention.

When you come home from a walk through a crowded street, can you remember the appearance of the last three persons that you passed? No. In ninety-nine cases out of a hundred you cannot tell whether they were men or women. Why is this? You say it is because you paid no attention; and you are quite right. The first impression was made upon your senses: it was carried to the brain; but it failed to get itself registered. You were thinking about other things. The first impression was so faint, that the strongest power of recall fails to revive it. Of such an impression

there can under ordinary circumstances be no memory. But if the last person you saw before entering the house happened to be a six-foot cowboy in the picturesque garb of the plains, you would probably recollect him; and if perchance it was an unfortunate soldier with half his face shot away, the memory of him would certainly be very strong and might be unpleasantly persistent. Why is there memory in these cases and none in the previous case? Because in these cases your attention was attracted; and in proportion as the attraction was strong the remembrance is strong also. You may have seen a shoemaker putting nails into the sole of a boot. With his left thumb and finger he pricks the point of the nail into the leather just far enough to make the nail stand upright. It is so feebly attached that at the least shake it falls on the floor. Then down comes the hammer and drives the nail up to the head. Now the sensations that are continually pouring in upon us by all the avenues of sense—by the eye, ear, nose, tongue and skin—as well as the ideas streaming into our minds, are on their first arrival attached as feebly as the nails to the boot. But then down comes the *Attention* like a hammer, and drives them into conciousness, so that their record remains for ever. From all this we see the importance of a good power of Attention. Unless you have such a command of your Attention that you can bring it down heavily upon impression after impression, so as to drive them home into your conciousness, they will have no firm attachment and they will be shaken out by the first movement of the mind.

It is manifest, therefore that the first requisite to a good Memory is a good power of Attention. There are very many people who are so afflicted with Mind-wandering, which may be regarded as a paralysis of the Attention, that it is impossible for them to attend to any single subject for two consecutive moments. All the while that their eyes are fixed on a book and their lips are repeating the words that they read, a phantasmagoria of disconnected images is dancing through their mind. Memories of past scenes and past events, sober anticipations, and castles in the air, rise to the surface and jostle one another like bubbles in a boiling pot. To such people it is no doubt interesting to know that, unless and until they control their Attention and keep it fixed on the subject they are learning, they will never be able to remember: and similarly it is interesting to a paralysed man to know that until his muscles regain their power he will not be able

to walk; but it is no more use to tell the mind-wanderer to keep his Attention fixed than to tell the paralysed man to move his leg. In the one case, as in the other, the sufferer must be put through a course of treatment.

Such a course of treatment for mind-wandering is found in the series of exercises prescribed by this system. By performing those exercises the mind is tied down to the subject-matter by a tether which brings every excursion of the attention to an end with a sharp jerk.

For those who are engaged all day in hard labor, or whose minds after the day's work are weary, the best time to perform the exercises is the morning, when the mind is fresh and the body rested.

FIRST EXERCISE.

THREE LAWS OF RECOLLECTIVE ANALYSIS.

The first thing the pupil has to do is fully to master the following three Laws, so that he may be able to apply them and to understand just why the examples given are classed under one head rather than another. Let him think of additional examples under each head and justify to himself his classifications. *Until he can do this well* let him not pass to the next exercise.

I. INCLUSION indicates that you realize or feel that there is an overlapping of meaning between two words, or that there is a noticed or recognized idea or sound that belongs to both alike. Cases of Inclusion may be classed thus:

SIMPLE INCLUSION (mostly synonyms)—Riches, Wealth. Frequently, Often, Obstacle, Barrier. Wretchedness, Misery. Loss, Lack. Inquire, Ask. Allow, permit. Work, Labor.

WHOLE AND PART—Earth, Poles. Ship, Rudder. Forest, Trees. Air, Oxygen. House, Parlor. Clock, Pendulum. Knife, Blade.

GENUS AND SPECIES—Animal, Man. Plant, Thyme. Fish, Salmon. Tree, Oak. Game, Pheasant. Dog, Retriever. Gas, Oxygen.

ABSTRACT AND CONCRETE—(The same Quality or Property appears in both)—Dough, Soft. Empty, Drum. Lion, Strong. Courage, Hero. Glass, Smothness. Gold, Ductility. Oxygen, Colorless.

SIMILARITY OF SOUND—Emperor, Empty. Salvation, Salamander. Hallelujah, Hallucination. Oxygen, Oxen. Cat, Catastrophe.

II. EXCLUSION means that you observe that there is an *antithesis*, or that one word excludes the other, or that both words relate to one and the same thing, but occupy *opposite* positions in regard to it, as Riches, Poverty. Hot, Cold. Old, Young. Damp, Dry. Life, Death. Love, Hate. Joy, Sorrow. Courage, Cowardice. Health, Sickness. Righteous, Wicked. Beauty, Ugliness.

III. CONCURENCE is the felt relation between two ideas or impressions which we have sensuously *experienced* or *thought of* together or almost simultaneously, or History has *told* us *are* together, *although having no relation necessarily*—Daniel, Lion. Execution, Surratt. Gravitation, Newton, Apple. Dives, Lazarus. Abraham, Bosom. Pipe, Tobacco. Columbus, America. Grandmother, Knitting. Socrates, Hemlock. Demosthenes, Seashore, Pebbles. Job, Patience. Wedding, Slippers. Wellington, Bonaparte, Waterloo. Oxygen, Priestley.

The following pairs also show concurrence:—Spade, Dig. Razor, Shaving. Coffin, Burial. Chair, Sitting. Scythe, Cut. Sword, Wound. Pen, Write. Ears, Hearing. Road, Travel. Food, Eating. Paper, Write. Wine, Drink. Worm, Crawl. Bird, Fly. Eagle, Swoop. Hawk, Hover. Ram, Butt. Teeth, Gnash. Wheel, Turn.

SECOND EXERCISE.

The next thing is to learn by means of these laws the presidential series,

Now let the Pupil ask *what relation* he finds between the following words:—

President } In. by S.
Dentist }

There is nothing in common in the *meaning* of these words. Nor is their any antithesis between them, nor have we ever thought of them together, so that when we now think of one it recalls the other from the operation of Concurrence, but it is a case of In. by S., as the sound *dent* belongs to both alike.

Dentist } Con.
Draw } and In.

The meaning which common usage has *assigned* to Dentist, is one who draws teeth. So some may deem this a case of In., as the idea of "drawing" belongs to both words, principally to dentist and wholly to "draw." No one can think of a dentist without thinking of drawing teeth, so this is a specimen of Con., especially strong, if we have had personal experience with dentists drawing teeth.

Draw } Ex.
To give up }

To draw is to pull, to use force—to overcome resistance. To give up is to yield to force, to make no opposition, to surrender voluntarily. Here, then, are distinct opposites,

To give up } In.
Self-sacrifice }

Self-sacrifice means *to give up* one's own interests or what is dear to one. "To give up" is to give up anything, trifling or important. "Self-sacrifice" is to give up a great deal. It is In., G. and S.

Self-sacrifice } Con.
Washington }

Washington being a proper name, has no signification *as such*, no connotation; it is a *sound* to which the man answers. Therefore there can be no In. by meaning here. But we *have thought of* Washington and self-sacrifice together, as history has informed us that he refused to be made Dictator by the army, and to be elected President for a third term. Hence it is a case of concurrence.

Washington } In.
Morning wash } by S. Although a proper name as such has no meaning, yet the parts or syllables of it may be significant words, as "wash" in Washington. Wash belonging to "Morning wash," and "Washington," this is a case of In. by S. through the syllable "wash."

Morning wash } In.
Dew } If "Dew" is regarded as a "Morning wash" of the flowers, etc., then this would be a case of In. by Genus [Morning wash] and Species [Dew] of that "wash." As both imply moisture, there is something in common in the meaning of the words. It is simple In.

Dew } Con.
Flower beds } There is nothing in common in the meaning of the words. But experience has told us that in the morning the dew is often on the flower beds. It is mere Con.

Flower beds } In. or Con
Took a bouquet } If we merely think of "flower" and "bouquet" we should have In. by whole and part—since a bouquet is a collection of flowers, and a flower is but one of a collection. But if we think of "flower beds" as a whole by itself, the relation between these two words and "bouquet" would be Concurrance, since we know that flowers are often selected from "flower beds" to make a bouquet.

Took a bouquet } Con.
Garden } Although we cannot get bouquets from all gardens—kitchen gardens for instance—and although we can sometimes get bouquets from places which are not gardens, yet as we generally think of bouquets as taken from gardens, this is mere Con.

Garden } Con.
Eden } "Eden" means a place of pleasure. Hence Garden of Eden was a pleasant place—a Paradise. We have often thought of the "Garden" of "Eden"—of these words together. Hence it is Con.

Eden } Con.
Adams }

The word Adams is merely the word Adam, with the addition of "s." We have often thought of Adam having been placed in Eden. It is Con.

I.—Now see if you can correctly repeat these thirteen words from memory—not in doubles as in the above analysis (nor by recalling the words Inclusion, Exclusion, or Concurrence), but as a Series. If not, *re-think* the relation between the words where your memory failed until you can repeat the thirteen words in the exact order. This direction is almost universally violated. Remember you are committing to memory *not by repetition*, but *by analysis*, and this requires that, where your memory failed, you should *re-fortify* the first impression only by *re-thinking* the relation between the words.

II.—What is really accomplished by the disagreeable act of endless repetition? *Nothing*, except vaguely impressing these relations [In., Ex., or Con.] on the mind by a slow instinctive absorption, whereas a *conscious Thought* and a *reflecting Analysis* accomplish the same result with a thousand-fold greater *vividness by only one perusal.* Besides, what is consciously learned by analysis remains—but what is vaguely absorbed by *rote* is very soon forgotten. Again: suppose your memory is so weak that in one or more instances you have had to re-think the relation between the words three or more times. This is very different from mere repetition. There is *no thought* in mere repetition, whereas in reviving the relation between a pair of words there is a distinct act of thought. You put "brains" into the operation.

III.—If you had learned these thirteen words by ROTE it would have occupied very much longer time, perhaps fifty times as long, and if you wished to say them backwards you would have to learn them backwards. And this would have occupied you five times as long as learning them forwards, because you would be constantly mixing up the forward order with the return order. But if you can *now* say them from "President" to "Adams," you can readily *say them back* from "Adams" to "President." Try!

IV.—Now proceed in the same manner, solely by analysing the *relation* between the words, to learn the next set of words from "Adams" to "Madison," so as to say this last series both forwards and backwards from memory, and without mistake.

Adams } Con.
The fall }

Adam fell from his first estate by not keeping the commandment. We have often

heard or read of "the fall" of Adam. It is Con.

The fall } In.
Failure }
Failure is any kind of failure. The fall was a particular kind of failure. It is In. by Genus and Species.

Failure } In.
Deficit }
Here again we have In. by Genus and Species, deficit being a special failure, a failure of revenue.

Deficit } In.
Debt }
Deficit refers to lack of means of payment. Debt to the obligation and duty to pay.

Debt [bonds } In.
Confederate }
Relation by Genus and Species.

Confederate bonds } Con.
Jefferson Davis }
This is Concurrence, as Jefferson Davis was President of the Confederacy.

Jefferson Davis } In. by S.
Jefferson }

Jefferson } In. by S.
Judge Jeffreys }

Judge Jeffreys } Con.
"Bloody assize" }
The "Bloody assize" was held by Judge Jeffreys in August, 1685.

"Bloody assize" } Con.
Bereavement }
Whoever has thought of the "Bloody assize," must have thought of the grief and mourning it caused.

Bereavement } Con.
Too heavy a sob }
This is Concurrence. We have often thought of heavy sobs in connection with great bereavement.

Too heavy a sob } Con.
Parental grief }
Same as foregoing.

Parental grief } Con.
Mad son }
Although a mad son usually causes parental grief, yet there is nothing in common in the meaning of the words. The relation is that of Con., as we naturally expect to find that a mad son causes grief to his parents.

Mad son } Con.
Madison }

Now *recall all the words in the reverse order from "Madison" to "President," and then in the forward order from "President" to "Madison."* When, in learning a series, you have finished a set

of words, *always* go backwards and recite all the words from where you leave off to the *beginning*, and *then return*. Every successive tenth (or thereabouts) word (in capitals) will furnish a convenient stopping place.

Never start learning anything in this course of lessons before you have read the directions, before you have understood *how* you are to learn it.

On no account do the learning before you do the analysing. Recollective Analysis is *not* grammatical analysis. What you have to analyse is the relationship between each pair of words.

PRESIDENTIAL SERIES COMPLETE.

[The Names between brackets can be disregarded.]

President
dentist
draw
To give up
self-sacrifice
WASHINGTON [George]
morning wash
dew
flower-beds
Took a bouquet
garden
Eden
ADAMS [John]
the fall
failure
Deficit
debt
Confederate bonds
Jefferson Davis
JEFFERSON [Thomas]
Judge Jeffreys
"Bloody assize"
bereavement
Too heavy a sob
parental grief
mad son
MADISON [James]
Madeira
first-rate wine
frustrating
Defeating
feet
"toe the line"
row
MONROE [James]
oar
boat
steamer
The funnel
windpipe
throat
quinsy
QUINCEY ADAMS
quince
fine fruit
The fine boy
sailor boy
Jack Tar
JACKSON [Andrew]
"Stonewall"
indomitable
Tough make
oaken furniture
bureau
VAN BUREN [Martin]
rent
splitting sides
Divert
recreating
harassing
HARRISON [William H.]
Old Harry
tempter
The fraud
painted clay
baked clay
tiles
TYLER [John]
Wat Tyler
poll tax
compulsory
Free will

free-will ofiering
Burnt offering
poker
POLK [James K.]
end of dance
termination "ly"
Adverb
a part of speech
ninth part of man
TAYLOR [Zachary]
measurer
theodolite
Theophilus
fill us
FILLMORE [Millard]
more fuel
Hot flame
flambeau
bow
arrow
PIERCE [Franklin]
hurt
Feeling
wound
soldier
cannon
BUCHANAN [James]
rebuke
official censure
Officiate
marriage ceremony
linked
LINCOLN [Abraham]
arm-in-arm
stroll
seaside
Heavy Shell
molluscs
unfamiliar word
dictionary
JOHNSON [Andrew]
son
dishonest son
Thievish boy
thieve
take
give
GRANT [Ulysses S.]
award
school prize
cramming
round table
tea table
Fagging
laboring
haymaking
HAYES [Rutherford B.]
hazy
Vivid
glowing
camp fires
war field
GARFIELD [James A.]
Guiteau
murderer
prison
Half-fed
well-fed
well-read
author
ARTHUR [Chester A.]
cup of tea
Half-full
divide
cleave
CLEVELAND [Grover]
anti-trusts
Half-fib
lies
political campaign
hard cider
HARRISON [Benjamin]
Tippecanoe
wounded
Have a balm
calm
sea
land
CLEVELAND [Grover]

V.—The learning of such a series as the Presidental series familiarises the pupil with the laws of Analysis; and the DAILY recital of such a series forward and backward *tends greatly to strengthen the natural memory.* This daily recital is not done to

learn the series, for that is done in one careful perusal; but the subsequent recitals are solely to exercise and *train* the memory,

VI.—This System of Memory Training accomplishes two purposes. (1) Every first impression will hereafter be much more vivid than formerly. Contrary to the natural expectation, it is not sufficient merely to know the Laws of In., Ex. and Con., as a matter of mental science, but it is necessary, in order to secure the above improvement in every first impression, to have *ample practice* in applying these Laws in *actually analysing* those relations between words where they are found to exist, and also much practice in *memorising* the order of such words, and especially in *reciting* them forwards and backwards from memory. In due time the mind will be unconciously impressed with these relations much more vividly than formerly, in a manner not unlike the experience of the child in learning to read. At first every word must be slowly and carefully *spelled*, but after some practice they are rapidly read at sight without being conciously spelt. The ambitious student who wants to acquire the peculiar and distinctive power of the System in this respect will not fail to learn and recite the Presidential Series two or three times per day for at least one month,* *with no day omitted.* And, if a pupil's memory has become deteriorated through lack of exercise, or from bad habits, or through the perverting influence of mind-wandering, or bad health, or the approaches of old age, or excessive mental toil, and if he wishes to obtain the very highest results of this practice, let him make four Analytic Series of one hundred words, each one containing as many Inclusions by meaning, and as few by sound as possible: there will of course be intermediate Exclusions or Concurrences; or one may contain as many examples of Exclusions as he can think of, and another as many Concurrences as he can introduce, while another is so simple and plain as to be comprehensible by children nine years old. Then let him memorise them and *daily recite them two or three times both ways with the Presidential, Heptarchy and Dough, Dodo Series for a month.* The rehabilitation and highest invigoration of his memory in respect to EVERY first impression will reward his exertions.

---

* Of course he can still go on with his other Memory Lessons.

THIRD EXERCISE

The following sixty-five words should be thoroughly learned by Analysis, and repeated forward and backward once or twice per day for twenty days. In the next lesson it will appear clearly why, owing to the necessarily limited choice of words, the analytical relations between them are less obvious than if the choice had been unrestricted. The less obvious, however, the connection, the better exercise it will be in tracing the relations of In., Ex. or Con., with which it is *now* the Pupil's object to become familiar.

Dough	High Mass	Leap
Dodo	Noisy	Lamb
Lay	Meek	Jam
Outlay	Nun	Rive
Money	Enough	Mad
Rogue	Muff	Dash
Watcher	Hand	Hash
Lair	Match	Dine
Chase	Dip	Inn
Lasso	Nile	Talk
Mule	Eddies	May hear
Rod	Ray	Harp
Gnash	Dray	Rhyme
Happy	Heavy	Leaf
Home	Numb	Lawn
Dome	Rouse	Rich
Egg	Lull	Honey bee
Hennery	Chide	Rear
Mope	Lad	Nag
Leash	Lag	Mum
Chain	Run	The foe
Rail		Dough

The second result of this System of Memory training is that the general RETENTIVENESS, or the Power of Recalling and Reviving past impressions, is enormously increased in every respect. This result depends on three indispensable conditions:

(*a*). Each Exercise must be learned in the *exact manner* prescribed (and never by *rote*) and so thoroughly learned that there is the highest degree of certainty always felt in reciting it. If a pupil says "I take no interest in the Presidential series," or in any of the exercises of subsequent Lessons, he simply de-

clares that he is the Teacher, and not the learner, and that he will not resort to the MEANS that the system enjoins to secure the power of it. All the exercises have been chosen with the sole view of communicating that power, and if the pupil acquires it he can hereafter sport familarly with the heaviest Memory tasks that can be imposed.

(*b*). The next condition is that he should so learn all the exercises that he can recite them with the greatest possible rapidity. What is learned by *rote* and rapidly recited concerns that particular case only. But whatever is strictly learned by this Method, and rapidly recited, *strengthens* the GENERAL *retentiveness.* When you have carefully read a sentence over once you have usually exhausted and absorbed all the ideas in it, and every subsequent repetition, adding nothing new, becomes by excess of familiarity painful and distaseful. The mind will wander after the second or third repetition. In fact, *learning by repetition* is the cause of half the mind-wandering existing in this country. On the other hand, the recital of any Series learned by Analysis strengthens the *mental cement* between the thoughts. Learning by repetition impresses the Memory as the flicker of the expiring ember affects the eye. But learning by Analysis or *reciting* what was so learned, affects the Memory as the eye is affected by the Electric Light. And the more stimulating the exertion of Memory the greater its Physiological growth, in manner as bodily muscle grows strong by judicious gymnastic exercise. And the highest possible stimulation and invigoration of the Memory is gained by *rapidly* reciting what has been learned by Analysis. However slowly he must recite the Presidential series at first, a pupil will soon be able to do it *inside of a minute each way.* And if it takes a long time and much patience to do this in any case, that person should know that it is beeause his memory is very weak, and that he requires this mental gymnastic to enable him to gain the memory he needs.

(*c*). The last condition is the acquirement of absolute confidence in reciting exercises *in the presence af others.* Whoever wishes to speak in public, or pass examinations, or *think* or *act* before others should rehearse the exercises in the presence of his friends as often as possible, until he can say them as confidently as he can now say "twice two is four."

(*d*). The result of this thoroughgoing Memory-training is to correct false habits of Memory-association, and to develop and strengthen the *cementing* and *reviving* power of the Memory to the highest attainable degree in regard to *all subjects whatsoever.*

(*e*). Another result is that the pupil habituates his Memory to act under the control of his will.

(*f*). Another result of this genuine Memory-training is that pupils can hereafter learn to play or sing or speak without notes, and this is done without resort to any devices, but solely from their new memory-power. Musical notation, as in a tune to be remembered, is a series of complex symbols; and to resort to any device to enable you to remember that series, would be only imposing another burden on the Memory. Of course, the Student must learn and understand the symbols; and the System enables him to remember the series of symbols that make the tune, by giving him a *New* and *Stronger* Memory. What was hard or impossible for him to remember when his Memory was weak, becomes easy to him when it is powerful.

(*g*). Another result of this Memory-training is that after a little time the Pupil will, by a mental reflex, be affected by the relations of In., Ex. and Con. without *consciously analysing* them, not only between WORDS, but between sentences, propositions, theories, chapters of books, etc.—a marvellous extension of intellectual grasp and apprehension.

Any pupil having an *exceptionally weak* memory, or wishing to strengthen his Natural Memory to an extraordinary degree, must make one more Analytical series himself, and learn and recite them forwards and backwards, together with the "Presidential Series," "Heptarchy Series" and the "Dough, Dodo Series," once or twice a day for an entire month, with *no day omitted.* Do not aim at introducing proper names, or any other special words, but merely at connecting words by analysis, such as:—water, wet, dry, moist, etc.

HEPTARCHY SERIES.

Analyse the Series; if you memorise it, do so by learning ten or twenty words at a time, and recite both ways daily for one month,

in connection with the Presidential, and Dough, Dodo Series, and in extreme cases in connection with Series of your own making.

Heptarchy *
seven
"Sevenoaks"
Fine Oak
acorn
egg-shaped
EGBERT
white of egg
Foaming
mad dog
wild dog

I.

WOLF
lamb
sheep
Flock
wool
hairy
BALD
piebald
horses
"gees"
Fijis
islands
land
mother earth

II.

BIRTH
ship
fishing smack
Fish show
flesh
blood red
RED
Red Republican
faction
Fact
factious
annoy
fret

III.

ALFRED
alphabet
letters
Post
letter-box
key
WARD
warder
door-keeper
Panel
painting
easel

IV.

STAND
standard
alloy
Brass
coppers
money
MONDAY
school
Birch
dunce's dread
EDRED
Dreadnought
wicked
Belial †
leader
head

V.

EDWY
run ahead
pursuing officer
Bailiff
bail
guarantee
EDGAR
garlic
onion

Pickle
acid
corroded iron
worn
WARN
getting ready
Pack up
pack off
retreat
repulse

VI.

REDAN
Daniel
Faith's trial
Test him
examination
scholar
illiterate
SWAIN
laboring man
weeder
thistles

Destroy
generate
gender
neuter

VII.

CANUTE
can
bin
Duster
dust
rust
RED-BROWN
brown study
coach
The stage
'All the world's a stage'
MUNDANE

---

* Gr., *hepta*, *seven*, and *arche*, rule.

† See 2 Cor. vi: 15.

worldly
irreligious
Atheistic
stick
paddle

CANOE
Indian
dark
Dismal
foreboding
forerunner

VIII.

HERALD
arms
cannons
Howitzers
strong tubes
bamboos
hard canes

HARDICANUTE
hardy sailor
mast-head
look out
Discern
bright-eyed
cheerful
warm-hearted

WARM
warm work
battle
It is Joshua
crossing Jordan
wading bird
HERON
long bill
law bill
Chancery suit
The wise judge

FOURTH EXERCISE.

LEARNING BY "ROTE" IS NOT LEARNING AT ALL.

A little reflection will show that learning by heart in the usual way, by means of endless repetition, is merely remembering *a series of sights* [words written or printed], or *a series of sounds* [words spoken], without any or the very smallest amount of comprehension, and the process is that of mere Concurrence. One of the many possible proofs may be seen in the statement of Dr. Maudsley, that he had seen an idiot at Earlswood Asylum who could read a column of the *Times* newspaper but once, and repeat the whole of it without a mistake; and he had heard of one who could, after a single reading, repeat the column forwards or backwards. These idiots possessed the *visual* word-memory.

Our system insists on pupils always first *understanding* the sentence or the matter to be learned; when that is done, *half the victory is gained*, and the rest is easily and quickly acquired. Simple sentences or propositions are readily understood—as, Iron is hard, Lead is heavy, Move the right foot forward; but suppose you have the simple sentence, "An Echidna is an Ornithodelphian." in such a case, unless the pupil resorts to a dictionary (he should never be without the best dictionary he can afford), this sentence will be a riddle to him until he learns the meaning of it by a special study.

But complex propositions are extremely hard to be comprehended at a glance. To comprehend such a sentence, let the pupil analyse it, that is, take it to pieces; and then, having found the simplest form to which it can be reduced, let him go on, step by step, adding one idea or qualification at a time, until he has gradually, and with understanding, rebuilt the complex sentence, and in this way, if he goes through with the reconstruction two or three times from *memory*, he will have absorbed all the ideas of a sentence, however complex. Take the definition of Memory, "Memory is the revival of a past Mental Impression." Its simplest form is—(1) Memory is a revival. Now add on one modification at a time from memory, till you reproduce the original sentence. In this way, you will have—(2) Memory is the revival *of an Impression*. (3) Memory is the revival of a *Mental* Impression. (4) Memory is the revival of a *past* Mental Impression [same as (1) FIRST IMPRESSION and (2) its REVIVAL.]

Suppose you are studying Geometry, and you wish to fix *permanently* in your memory the comprehension of the proposition of Prop. 1., Book 1., to wit: "To describe an equilateral triangle upon a given finite straight line." You take it to pieces and try to realise the *meaning* of each of its parts, thus: (1) A triangle. If you have learned the definition you know that a triangle is a three-sided figure, etc. (2) An *equilateral* triangle. You now observe that it is a three-sided figure whose sides are equal. (3) *To describe* an equilateral triangle. You have merely to draw it or sketch it. (4) To describe an equilateral triangle *upon a straight line*. Here you see that you must draw it, not upon any part of the paper or board, but on a straight line on that paper or board. (5) To decribe an equilateral triangle upon a *given* straight line. You must draw it, not upon any straight line, but upon some particular straight line. (6) To describe an equilateral triangle upon a given *finite* straight line; not upon a line of unknown length but upon a line of definite length, etc. If you repeat these successive reconstructions a few times from *memory*, you *assimilate* the whole of the proposition and all its parts with pleasure and certainty.

PART II.

SUPPLEMENT TO
RECOLLECTIVE ANALYSIS.

This system is learned, not by *understanding* the *theory* of it, but solely and exclusively by *doing* the *exercises*.

PREPARATION FOR MEMORISING
DATES OR ANY NUMBER WHATSOEVER.

FIRST EXERCISE.

The first thing to be acquired is to learn the equivalents in consonants of the cypher and the nine digits, as seen in the following table. The explanations will show you how to do it.

The explanations and examples will make this acquisition very easy.

FIGURE ALPHABET.

0	1	2	3	4	5	6	7	8	9
S	t	n	m	r	l	sh	g^{hard}	f	b
	th						k		
Z	d					j	c^{hard}	v	p
						ch^{soft}	q		
C^{soft}							ng		
						g^{soft}			

If you imagine the capitol letter S cut in two parts, and the bottom half attached to the top half, it would make a nought (O). That is why S is translated into 0. C^{soft} as in *cease* has the same sound as S, and Z is a cognate of S—that is, it is *made by the same organs of speech in the same position* as when making S, only it is an undertone, and S is a whispering letter. Besides, Z should represent O because it begins the word Zero—C^{soft} should also stand for O for the additional reason that C^{soft} begins the word cypher. Thus in translating a word into figures, we always turn S, Z or C^{soft} into (0); or, in turning figures into words, we always translate a nought (0) into S, Z or C^{soft}. We use "t" to represent 1, because "t" has one downward stroke, and we also represent 1 by "d," because "d" is cognate of "t." We represent 2 by "n," because "n" has two down strokes, 3 by "m," because "m" has three down strokes, 4 by "r," because it terminates the word *four* in several languages, and 5 by "l," because in the Roman alphabet L stood for 50, and we disregard the tens, and we make it stand for 5 or the first figure of 50; 8 by "f," because you can imagine "*f*" to be an eight elongated, and "v" is the cognate of "f."

"b" and "p" represent 9, because 9 is only an inverted "b" and "p" is its cognate.

The phrase "6 *Sh*y *J*ewesses *ch*ose *G*eorge" gives through its initial consonants the representatives of 6, viz.: sh, j, ch, and g soft. The phrase "7 *g*reat *k*ings *c*ame *q*uarrell*ing*" gives the letter equivalents of 7, viz.: g hard, k, c hard, and q, also the final ng. The representatives of the figures from 0 up to 9 are given in the consonants of the first phrase below, and in the initial consonants of the ten subsequent phrases following the figures:—

"Sidney Merlish gave a bow."

Naught	(0)	*S*o *Z*ealous *C*eases.
One	(1)	*T*ankar*d th*is *D*ay.
Two	(2)	headed *N*ightingale.
Three	(3)	*M*eals.
Four	(4)	*R*oadsters.
Five	(5)	"*L*amps."
Six	(6)	*Sh*y *J*ewesses *Ch*ose *G*eorge.
Seven	(7)	*G*reat *K*ings *C*ame *Q*uarrell*ing*.
Eight	(8)	*F*old *V*alue.
Nine	(9)	*B*eautiful *P*oems.

This explanation is a help to remember the *letter values af figures.* Another way to fix these values in mind for permanent use is to turn *words into figures.* This practice quickly enables you to *convert figures into words,* and to translate them back into figures.

The great utility of this practice will appear when SYNTHESIS is mastered.

RULES.

Not to be glanced at or skipped, but to be carefully studied.

1.—Two consonants of the *same kind* with no vowel between, provided they have the *same* sound, treated as one consonant, as "ll"=5, "nn"=2, "rr"=4, *dd*=1, etc. But the two consonants have different values, in the word *accident* =7012. This of course because *acci=aksi.*

2.—All *silent* consonants are *disregarded,* as "*Ph*" and "*h*" in "*Phth*isic"=107; "*b*" in "Lam*b*"53, "= Com*b*"=73, or in "Tom*b*"=13. "*gh*" in Bou*gh*t=91; "*k*" in *K*now=2; "*gh*" in Nei*gh*bors=2940.

3.—The *equivalents* of the above consonants have the *same value* as the consonants themselves, as "*gh*" in "*T*ou*gh*"=18, "gh" in

Enough=28; "gh" in *Rough*=48; "gh" in "*Laugh*"=58, "*Lock*"=57. "N" sometimes=ng=7; as in "Bank"=977; "n" in Bank has the sound of "ng"; n,g are not always taken together as one sound, and translated into 7, but are treated separately *sometimes*, as in engage=276.* X=gs or ks =70, as in example=70395; in oxygen=7062. Sometimes X =Z, as in Xerxes=04700, and then it=0. Ci and ti=sh, as gracious=7460; Nation=262. dge=g soft as in Ju*dge*=66. Tch=ch=6, as in ditch 16 (it rhymes with rich=46). Ch sometimes=k as in *Ch*ristmas=74030. S and z sometimes=zh, which is the cognate equivalent of sh=6, as in Pleasure=9564, and in Crozier=7464. Acquiesce=70, excrescence=7074020.

4.—No notice is taken of any *vowel* or of w (war=4) or y (yoke=7), or of h (the=1), except as part of ch or sh. Words like Weigh, Whey, etc., having no figure values, are never counted. If one word ends with, and the next word begins with the *same* consonant, they are both reckoned, as That Toad=1111.

[Those who are interested in remembering fractions, etc., see p. 31.]

SECOND EXERCISE.

Let the Pupil translate into figures all the words of the Dough, Dodo Series, and the date-words (in italics) of the Presidential series; also the following words, which express the Dates of Accession of the Kings of England from Egbert to Victoria.

Fine oak...foaming...flock...vicious...fish show...fact...post ...panel...brass...birch...Belial...bailiff...pickle...pack up... rest him...destroy...duster...the stage...atheistic...dismal... howitzers...discern...it is Joshua...the wise judge...deceiving

* Pupils who have a poor ear for sounds sometimes fail to note when "n" sounds like "ng" and so means 7 instead of 2. Let them study the words "ringer" (474), "linger" (5774), and "ginger" (6264). The first syllable of "linger" rhymes with the first of "ringer," and not with the first of "ginger;" it rhymes with "ring" and not with "gin;" and if the first syllable of "ringer" is 47, the first of "linger" must be 57; but the second syllable of "linger" is "ger," while the second syllable of "ringer" is only "er." So "linger" is pronounced as if spelt "ling-er," the "n" sounds like "ng." "Ringer" is pronounced "ring-er."

tootsies...hot oatmeal...tutelar...the day of hope...dead baby ...tin dish...Duncan...damask...demoniac...demagogue...to imbibe...dry theme...drawn in...tragedy...true fame...teraphim ... tearful...to lisp...tailoring...tall elm ... dual life ... Doge's home...additional...too sharp...dutch loam...wide shelf ...eat jalap...two judges...dishevel...the chief abbey...tocsin ..doctor...thickening...dog shows...toughness...die famous... day of maying.

The following are examples of words and phrases for the lengths of Rivers and heights of Mountains. The pupil should translate them into figures. How the figure-words are to be *connected with the names* will appear from the lesson on Synthesis. Mississippi, *warm oven;* Nile, *wordy essays;* Volga, *narrow seas;* Ohio, *town jail;* Loire, *lammas ;* Seine, *Argosy;* Thames, *annals ;* Spree, *annoyance ;* Jordan, *an icehouse ;* Sorata (Andes), *Indian effigy ;* Popocatepetl (Mexico), *take a weak wife home ;* Mount Brown (Rocky Mountains), *whitish sauces;* Mont Blanc, *idling half the day;* Jungfrau, *the Mohicans ;* Righi, *all bustle!* Konjakofski (Ural Mountains), *lumbago ;* Saddleback, *now giving ;* Ben Nevis, *wear your sash ;* Snowdon. *homologous.*

Authorities differ as to these lengths and heights. They are given here as stated in A. Keith Johnston's *Gazetteer.*

THIRD EXERCISE.

Translate into figures the following 71 sentences :

Mother Day will buy any shawl.

My love, pick up my new muff.

A Russian jeer may move a woman.

Cables enough for Utopia.

Get a cheap ham pie by my cooley.

The slave knows a bigger ape.

I rarely hop on my sick foot.

Cheer a sage in a fashion safe.

A baby fish now views my wharf.

Annually Mary Ann did kiss a jay.

A cabby found a rough savage.
A low dumb knave knew a message showy.
Argus up my fire rushes.
A bee will lose life in enmity.
A canal may well appear swift.
Never have tidy Dick early.
Has no fear to see a new ghost.
A beam fallen at dizzy Lulu.
We will be a sure arch in a new pier.
Feeble are poems home-fed.
A butcher ran off feet soppy.
A college shall buy my mirror.
Shoot in a fury, ugly Sheriff.
Naomi may give Jack half my tea.
Shall we now cut Annie's topaz.
Peter will shear a village hedge.
Upon my ridges moor a fish.
To soar lower may nudge a Jury.
Find my map, my Chiswick.
Now choose anew our better Eden.
Coming near love kisses.
Ji-Ji has jammed a whole leaf off.
Take rough, fat, lamb-soup.
A nice patch in a funny panel.
Raise bad cattle, major.
A magic fop knew a well opossum.
Joses taught him my sole hymn.
A sailor if vain has a rich joy.
You allow no time for authorship.
Let a pert lad teach us.
A bear may muzzle a gun-case.
My shallow cool pulp-tub.
A lamb's pint of shady dew.
Come off top, my newish ditty.
A cup may dazzle at a haughty hovel.
Refuse queer, rich, new muck.
Baby Jenny wooing her pale cheek.
Melt half a flaky lining.
Any roof bought in New Cobham.
Heave it off, my sooty deep robe.
A tiny hoop of mamma shook a mummy.

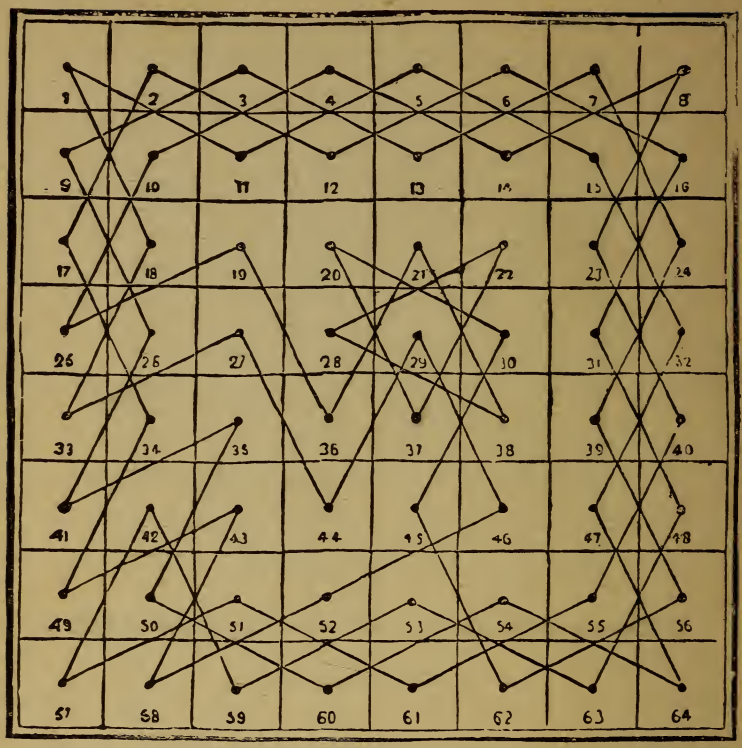
China warriors usually weigh each a share.
A missive chosen at my ball.
Stitches pin our ruffs.
Going now amiss by our machine.
Full looms push chains,
No quail will shape my big pie.
A heavy ship will soon annoy a new rock.
Her puppy shone as a choice care
Bacchus may swear at : ny match.
A shy heavy wife shut a bible to-day.
Suasive weapons win him fame.
Cuckoos untamed are touchy.
We buried Dobson by five.
You love Annie Laurie, you wretch of a Doge.
He may pick up pipes, Rachel.
Picus is safe to accuse us,
No Pasha may deny my awaking him.
Folk may run his ferret home.
Escape it early to-day, if you may.
Paphia's legacy pay off wholly.

*** Beware of violating the four rules on page 23 and 24.

FOURTH EXERCISE.

THE KNIGHT'S TOUR.

It goes without saying to the Chess player, that the move of the Knight is L shaped, one leg of the L being always twice as long as the other, and that in this celebrated Tour he makes correct Knight's moves all the time; but in popular language we may say: the object of this Problem is to conduct the Knight all over the Board from No. 1 or any other number, and to return to the same point whence it started without its having rested upon the *centre* of any square more than once in its course. The following is a diagram of the tour:



The crookedness of this journey must be apparent to any one. If he start from square 1, he would have to touch successively the following squares, reading the series from left to right and not in columns.

1—11	5	15	32	47	64	54	60	50	35	41	26	9	3	13
7	24	39	56	62	45	30	20	37	22	28	38	21	36	19	25
10	4	14	8	23	40	55	61	51	57	44	59	53	63	48	31
16	6	12	2	17	34	49	43	58	52	46	29	44	27	33	18—1

The following series translates the Figures of the Knight's Tour into words, which the student can memorize in one or two readings by Analysis (if he did not learn them in the First Lesson), and thereby be enabled to hand the accompanying Diagram to anyone, and at his command recite the Tour, beginning at *any number he may name*, and proceeding *either way* to return to the point of beginning.

In the list of words given below the figures showing the numbers of the squares are represented by *all* the *sounded* consonants of the words.

It may be observed that, owing to the necessarily limited choice of words, the analytic relations between them are naturally less obvious than if the choice had been unrestricted. The less obvious, however, the connection, the better exercise there will be in tracing the relations of In., Ex. or Con., with which it is now the Pupil's object to become familiar.

Dough ... Dodo .. Lay ... Outlay...Money...Rogue...Watcher ...Lair ... Chase ...Lasso... Mule... Rod... Gnash...Happy... Home...Dome ... Egg ... Hennery... Mope. .Leash. .Chain... Rail...High Mass...Noisy...Meek...Nun*...Enough... Muff... Hand... Match.. Dip .. Nile .. Eddies.. Ray.. Dray.. Heavy Numb.. Rouse .. Lull .. Chide .. Lad.. Lag.. Run.. Leap... Lamb ...Jam .. Rive .. Mad .. Dash .. Hash .. Dine.. Inn... Talk ...May hear .. Harp .. Rhyme .. Leaf . Lawn .. Rich... Honey bee.. Rear...Nag...Mum.. The foe !

By daily practice you will soon be able to recite *the figures* of the Knight's Tour in the exact order, both forward and backward, in one minute and a half.

Recall the *words* to memory, but do not say *them* aloud; say aloud the *figures* that translate the *consonants* of the words.

When you can recite the figures of the Tour *rapidly* by *thinking through* the words, you will soon be able to find the words for any figures whatsoever.

THE PRESIDENTIAL AND HEPTARCHY SERIES.

The time has now come when the Pupil can translate the Date-words, such as "Fine Oak," etc., and "To give up," etc., into figures, as he *recites* those series forwards and backwards. Let him not fail to recite both ways, at least once each day, those series, always saying the figures that translate the Date-words, and also to join with them the Dough, Dodo Series, but in this last case only thinking the words and saying the figures. Let him keep up this practice for one month, and he will find a remarkable change for the better to have taken place in his Memory and Concentration.

In the Presidential Series the words in CAPITALS are the names

---

*Nun sounds like "none" the opposite to "enough."

of the Presidents, and those in *italics* translate the dates of the beginning and end of their terms of office. *To give up* means 1789, the date of the installation of the first President of the United States, Washington. *Took a bouquet* (1797) is the date of the close of his Presidency, and the commencement of John Adams's.

Notice that Fine Oak (827) denotes the close of the Heptarchy and also the beginning of the reign of EGBERT, whose name follows that Date-word; and that the date *Foaming* (837), which terminates Egbert's reign, is also the commencement of the reign of Ethelwolf, which follows that Date-word, etc. Thus, each king's name or homophone is between the Date-words which indicate when he began to reign and when his reign terminated; and thus those two Date-words are directly connected with the king whose reign they open and close. And as it happens in all these cases that the *end* of one reign coincides with the *beginning* of the next reign, we see that each Date-word serves the double purpose of marking the commencement of that king's reign which it precedes and also the termination of his predecessor's reign; or, in other words, each date-word indicates the *finish* of the king's reign whose name precedes it and the *beginning* of the reign of that king which follows it; so that, if the pupil has thoroughly memorised the Heptarchy Series he can *instantly* give the date of the accession of each king by thinking of the date that precedes it, and he can as quickly give the date of the termination of that reign by thinking of the date which follows it. He can also give the entire Series of Kings, and their dates, both forwards and backwards with great rapidity and certainty. Similar remarks would apply to the Date-words in the Presidential series.

Notice that Ethelred II. (who came to the throne in 979 and later retired), was restored in 1014, in Canute's absence. In 1016 whenE thelred died, Edmund Ironsides (his son) and Canute divided the Kingdom, and on the death of Edmund, Canute became sole king, "Ward" is used for Edward I., "Warn" for Edward II., and "Warm" for Edward III., to distinguish them from the Edwards after the Conquest, "Edit," etc.

☞ The pupil should master this Lesson, no matter what his aim may be. It will be equally valuable to the student of languages and to those who will be occupied with Applied Mathematics. Besides, it is indispensable for the understanding of the subsequent Lessons. Let no student therefore fail to become a thorough proficient in the principles and rules of this lesson.

As a rule, words *beginning* with S are not used, except to translate *decimals* and *fractions*, and Date-words where a *doubt* might otherwise arise (unless in a phrase like "To see Jiji," "delay a spy," etc); and in case of the decimals, S, as the initial letter, means only the decimal point. (1) If there is an integer followed by a decimal, two separate words are used; the decimal-word begins with S, thus: 945.51=barley sold: 71.3412=good Samaritan. (2) If it is a decimal by itself, the S indicates the decimal point only—.01=society; .02=Susan; .04=saucer. (3) If it is a fraction, the words translating numerator and denominator begin with S, and the S's are not counted, the numerator-word coming first, and the denominator-word last, thus: =sail Satan. (4) As to Date-words, just before the commencement of the Christian Era you may use an ititial S, *e.g.* Stir would mean 14 B.C.; and of course Tower would mean 14 A.D.; Soar=4 B.C., and Rue=4 A.D. In a Date-word like Trial, to express 145 B.C., no doubt could arise; if the pupil knows the contemporary history, he could not imagine it could be 290 later, or 145 A.D. If he fears he might not remember that it was B.C., he could remove all doubt by using the word Stroll.

TURNING FIGURES INTO WORDS.

When the pupil is able to run through the Dough, Dodo series in figures in a minute and a half, let him try how quickly he can recall the word for any of the numbers from one to sixty-four, which comprise the squares on the chess-board. So that if he is attempting to do the Knight's Tour blind-fold, and is told that square number 34 has been selected as the starting point, he can instantly recall "May hear," and be prepared to go either to 49 (Harp), or to 17 (Talk).

If he wants practice in other numbers, let him try his hand on such numbers or figures as he sees on the streets and store fronts, turning them into words. If he sees a house numbered 441, let him think how many words besides "reared," "rarity," "reward," "arrowroot," he can find.

The pupil may at first write down the equivalents of the figures in order to find words; but as soon as possible the habit should be acquired of *thinking through the figures*. Besides the variety of consonants which may be employed as "g," "k," "c," "q," and "ng," all of which equal 7; let the pupil not forget that he has at

his disposal "h," "w," and "y," which *have no figure value*, and that vowels may be put in any position. The various sounds of the vowels must be borne in mind also: "a" having four sounds; as in "fat;" "father;" "fall;" and "fate;" "E" has two sounds, as in "bet;" "beet;" "I" has two sounds, as in "bit," and "bite;" "O" has three sounds, as in "rot," "rote," "foot" and "food;" "U" has two sounds, as in "rut" and "rude; and then the diphthongs, oy, ow and ew, come into play constantly. With all this material it is easy to find words for any figures whatever. If you want a number of words to choose from, all equalling 7, put it down in this form; or better still, think it out.

NO VALUE.		7	NO VALUE.	
	a	g (hard)	a	
wh	e	k	e	w
w	i	c (hard)	i	h
h	o	qu	o	y
y	u	ng	u	

Look over this little table and see how many words you can find besides whack, wag, wig, wake, week, wick, woke, wing, hag, hog, hug, hack, hang, hung, yoke, ago, ache, echo, Iago, oak, go, key, caw, cow, cue and quay.

If a word was wanted for "91," by proceeding in the same manner, you will find:

NO VALUE.		9	NO VALUE.	1	NO VALUE.	
wh	a		a		a	
w	e	b	e	t	e	w
h	i	p	i	th	i	h
y	o		o	d	o	y
	u		u		u	

The simple forms: bat, bet, bit, beat, and but, at once occur; but see how many more you can find, such as "whipped" and "habitue."

The pupil must be particularly careful about *equivalents* of consonant sound. For instance; there are six or seven sounds of "ough" in English, as in the words, though, tough, cough, hiccough, plough, through, lough; in some of these it is equal to "8,"

as in tough; in others to "9," as in hiccough. Be very careful of the "sh" sound, and its cognate zh, both equal to six. It occurs in such words as: usual, (65;) tissue, (16;) noxious, (2760;) ingratiate, (27461;) luscious, (560;) pugnacious, (97260;) and Prussia, (946).

If the pupil will practice this method in the every day affairs of life, he will find it will greatly simplify the problem of remembering numbers of any description. The human mind feels the want of some concrete mode of expressing the abstract figures, and evidences of this desire may be often noticed: as when a man tells you he lives at 125 Broadway—"You can remember the number," he says, "if you think of a dollar and a quarter, (125)." Another tells you to meet him at 5 o'clock—which he tells you you can remember by the fact that you have five fingers on your hand. These are mere accidental coincidences, and besides, none of them connect the number to be remembered to the thing, or person, or event, to which it belongs; how much better to have a method of instantly finding a word for *any* number and *cementing* it to the name permanently. In the next lesson, on Synthesis, how the connection is made, is fully explained.

FIFTH EXERCISE.

INTERROGATIVE ANALYSIS.

The Analytic Method of dealing with sentences by taking them to pieces and reconstructing them, as given in last Lesson, is useful. But it is in every way inferior, even in the matter of securing the comprehension of propositions, to the method now to be presented. This latter method secures not only the understanding but also the retentive memorisation of sentences of any description.

This method of *exhaustive* Interrogative Analysis is easy to all, and it never fails in any case. The process is very simple. Propose a question on every SEPARATE thought expressed in the sentence, and then as a reply to *each* question, repeat the entire sentence from memory, or the main clause where it occurs, and especially EMPHASISE that word in it which constitutes the

reply to the question, as exemplified below. In this way you study the THOUGHTS indicated in the sentence in a twofold manner, first in *framing* the question and then in *emphasising* the answer; and you so thoroughly master these thoughts, that they necessitate carrying the dress or clothing of them. With a careful study of the examples given, the youngest pupil can soon rapidly use this method, and at length only a few questions will have to be propsoed in order to learn prose and poetry *verbatim*. But at *first* when learning say the first hundred sentences, it is necessary to *put* and *answer* all possible questions on each sentence. Observe how the mind is by this method agreeably occupied, the Attention cannot wander, and the pupil's pains are rewarded by a retentive recollection of the passage.

I desire that *every* pupil should learn in this way, on the model below, the entire seventy-one sentences, pages 24, 25, 26 of this lesson. My object is threefold. 1. As these seventy-one sentences are wholly unconnected and often of very irregular construction, if the pupil learns them by heart in this way so that he can rapidly recite them without mistake, he will have so thoroughly mastered the method that hereafter he can learn any passage of prose or poetry in one careful interrogative perusal. 2. The learning of these seventy-one sentences will not only strengthen his power of Attention, but his Memory also, and make him quick to realise the meaning of all he reads hereafter. 3. By learning these sentences, he will be able to do by means of this knowledge an unequalled feat of memory, as he will see in a later lesson. Not a memory feat for show merely, but every time it is done before others the memory, continuity, and confidence are greatly increased. And if both his memory and concentration are *now* weak, he may have to repeat the interrogations and answers several times before he perfectly knows these seventy-one sentences by heart. And let him note the time it takes him to recite these seventy-one sentences without a single mistake. Let him recite them once or twice per day with increasing rapidity for two or three weeks.

Who will buy any shawl?—"*Mother Day* will buy any shawl." Which mother will buy any shawl?—Mother *Day* will buy any shawl." In what character is Mrs. Day here spoken of?—"*Mother* Day will buy any shawl" What is it Mother Day will do?—"Mother Day will *buy* any shawl." Has Mother Day already bought any shawl?—Mother Day *will* buy any shawl." Will

Mother Day buy a particular shawl?—"Mother Day will buy *any* shawl." What will Mother Day buy?—"Mother Day will buy any *shawl.*" What are "shawls" used for?—Warmth. Passing from physicial warmth, what name do we give to warmth of affection?—"Love." Whose love is addressed in the sentence?—"*My* love pick up my new muff." Who is asked to pick up my new muff?—"My *love* pick up my new muff." What do I ask my love to do?—"My love *pick up* my new muff." Whose muff is my love asked to pick up?—"My love pick up *my* new muff" What kind of muff is it?—"My love pick up my *new* muff." What do I ask my love to pick up?—"My love pick up my new *muff.*" What are "muffs" generally made of?—Fur. What is one special kind of fur?—"Russian." What kind of jeer may move a woman?—"A *Russian* jeer may move a woman." What may move a woman?—"A Russian *jeer* may move a woman." Is it certain that a Russian jeer will move a woman?—"A Russian jeer *may* move a woman." How may a Russian jeer affect a woman?—"A Russian jeer may *move* a woman." What is a Russian jeer likely to move?—"A Russian jeer may move a *woman.*" What is a young "woman" often called?—Lass. With what word does "lass" form an Inclusion by Sound?—"Lasso" What is a "lasso?"—"A rope with a noose used for catching wild horses." What are very strong ropes called?—"Cables." Of what are there enough for Utopia?—"*Cables* enough for Utopia." Is there any lack of cables?—"Cables *enough* for Utopia." What relation do the cables sustain to Utopia?—"Cables enough *for* Utopia." For what are the cables?—"Cables enough for *Utopia.*" What sort of an island was that of Utopia?—"Imaginary." Where do we have some vivid imaginations?—"In bed." What do we think of if in bed late in the morning?—"Getting up." What is the first syllable of "getting?"—"Get." What is my request in regard to a pie?—"*Get* a cheap ham pie by my cooley." What do I ask to be got?—"Get a cheap ham *pie* by my cooley." Do I wish to pay much for the pie?—"Get a *cheap* ham pie by my cooley." Of what particular meat do I want this pie?—"Get a cheap *ham* pie by my cooley." Do I want this pie got *through* any person?—"Get a cheap ham pie *by* my cooley." By whose cooley do I want the pie bought?—"Get a cheap ham pie by *my* cooley," By whom do I want the pie got?—"Get a cheap ham pie by my *cooley.*" What is a cooley?—"A dark skinned laborer in India." What is

a dark skinned laborer in America?—"A Negro." What was the American Negro in 1860?—"A slave." Which "slave" knows a bigger ape?—"*The* slave knows a bigger ape." Who knows a bigger ape?—"The *slave* knows a bigger ape." Is the slave acquainted with a bigger ape?—"The slave *knows* a bigger ape." What kind of ape is it the slave knows?—"The slave knows a *bigger* ape." What does the slave know?—"The slave knows a bigger *ape.*" For what are apes remarkable?—Tricks. What is another name with tricks?—Freaks. What is an inclusion by sound with freaks?—Frequently. What is an exclusion of frequently?—"Rarely." What is it I rarely do?—"I rarely *hop* on my sick foot." Who rarely hops on a sick foot?—"*I* rarely hop on my sick foot." Do I often hop on my sick foot?—"I *rarely* hop on my sick foot." Upon what do I rarely hop?—"I rarely hop on my sick *foot.*" What foot do I rarely hop on?—"I rarely hop on my *sick* foot." Whose sick foot is rarely hopped on?—"I rarely hop on *my* sick foot." When are sick feet a great inconvenience?—At a ball. What is the characteristic of the mood in which dancers generally appear?—Cheerful. How are we to treat a "sage"?—"*Cheer* a sage in a fashion safe." Whom are we to cheer?—"Cheer a *sage* in a fashion safe." In what manner are we to cheer a sage?—"Cheer a sage in a *fashion* safe." In what kind of fashion are we to cheer him?—"Cheer a sage in a fashion *safe.*"

In a similar manner let the pupil interrogatively analyse and memorise the rest of the seventy-one sentences.

As these seventy-one sentences are wholly unconnected, an analysis must be developed between the suggestive word at the end of one sentence and the suggestive word at the beginning of the following sentence. The theory is that the answers constitute the intermediate links between the first and second suggestive words. This method is virtually followed, but sometimes one or more of the analytic words appear in the questions. I will give no more interrogations on the sentences themselves. The pupil can easily work them out and memorise them. I only furnish a model for the remaining unconnected parts. The ambitious student, if he has time, should write out complete and exhaustive interrogations in his own language, not only for all the sentences themselves, but also for the connections between them.

What is a concurrence with "safe"?—Sound [safe and sound]. What is a disagreeable night sound?—Crying. Who cries?—"A

baby." For what is a "wharf" used?—Unloading goods. How often is stock taken of goods?—"Annually." What is a jay?—"A bird." What do the wings of a bird enable it to do?—"To fly." What can sometimes be used instead of a double-seated carriage called a "fly"?—"A cab." What is a vulgar name for a cabman?—"Cabby." Amid what do "savages" live?—Wild beasts. Are wild animals high or low in the scale of creation?—"Low." When is a speaker not considered "showy"?—When he argues. What word contains in the same order the first four letters of *argues?*—"*Argus.*" What kind of sound generally accompanies "rushing?"—A whizzing or buzzing. To what insect is buzzing almost peculiar?—"A bee." What is an In. by S. with "enmity?"—Enemy. What used to be an excavation made to keep off an enemy?—A trench. What does a trench filled with water resemble?—"A canal." What is an Exclusion of "swift?"—Slow. What are slow people generally known to be?—Late. When is it better to be late than?—"Never." When a boy is "early" to school, has he any fear of censure?—"No." Where are "ghosts" found?—In old halls. What supports a hall's ceiling?—"Beams." If "Lulu" was *dizzy*, what else was she likely to be?—Unsteady. What is a concurrence with steady?—"Sure" [sure and steady]. What is a new "Pier" likely to be?—Strong. What is the opposite of *strong?*—"Feeble." What is a "well-fed" man likely to eat?—Meat. Who provides the raw meat?—A "butcher." What do "soppy" feet lead to?—Colds. Who prescribe for their cure?—Doctors. At what place are they educated?—"College." What is seen in the mental "mirror?"—An idea. What is the young idea taught to do?—"Shoot." If a "sheriff" is not naturalized, what must he be?—A native. In what other word do we find an In. by S. with the first syllable of native?—"*Na*omi." What do you say of the depth of a *tea*-spoon?—It is shallow. What is an In. by S. with shallow?—"Shall." What is "topaz"?—A precious stone. Which of the Apostles' names means a stone or rock?—"Peter." What rises up a few feet from the soil?—A "Hedge." What rises high up above the adjacent valleys?—"Ridges" Since a "fish" swims in water, what is the opposite of what it can do?—"Soar." What is the verdict of a "jury" sometimes called?—A finding. What is the root of finding?—"Find." What is an In. by S. with Chis*wick?*—Wicked. When are they unsafe?—"Now." Do we think of "Eden" as past or future?—Past. What word applied to future events expresses the opposite of past?—"Coming." What is an

old word for "kiss?"—Buss. By what animals are public "busses" drawn?—Horses. What word directs a horse to the off side?—"Jee." With what is that an In. by S.?—"Jiji" (pronounced as if spelled Jeejee). What does "leaf off" sound like?—Leave off. What does that mean?—"Let alone." What is the opposite of let alone?—"Take." How may savoury "lamb soup" be described?—As delicious. What is a diminishing In. by meaning with delicious?—"Nice." What is "panel?"—Compartment with margins. If these margins are above adjacent parts, how do you speak of them?—They are raised. What is the root of raised?—"Raise." What is an In. by S. with?—Magi. What were they supposed to be skilled in?—"Magic." What is an In. by S. with "Opossum?"—Posture. Who has an awkward posture?—A clown. What is he?—A joker. With what does jokes form an In. by S.?—"Joses." What is usually taken as the opposite of a "hymn?"—Song. Who usually sings a marine song?—"A sailor." How do we often express our "joys?" By singing. What besides tune has a singer to heed?— Time. Who are vainest of authorship?—Youths, when they first see themselves in print. What is a conceited youth often found to be?—"A pert lad." Can we usually "teach" animals?—Yes. Which one is hard to be taught?—A "bear." Is a "gun case" deep or shallow?—"Shallow." What is "pulp?"—The soft and fleshy part of bodies. In what animal is the flesh soft and tender?—A "lamb." What is "dew?"—Condensed moisture. What word implies having been "condensed?"—"Compact." What is an In. by S. with compact?—"Come." When do people troll out their "ditties?"—When they have had too much intoxicating drink. What is a common drinking vessel?—A "cup." If a rich person is asked to live in a "hovel" what would he do?—"Refuse." What is "muck?"—Moistened dirt. Who often has a dirty face?—"A baby." How may we speak of a pale "cheek?"—It is white as snow. What eventually becomes of snow?—It "melts," What is "lining?"—Inside covering. What is an outside covering?—"Roof." What is the first syllable of "Cobham?"—Cob. If a lady see her lover thrown from a cob, what will her heart do?—"Heave." What is the size of a baby's robe?—"Tiny." Where do we see a "mummy?"—At a museum. What is the character of the things seen at museums?—Curiosities. What old curiosities have some people a mania for?—"China." What is a share?—A part. When lovers part in anger, what is apt soon to be sent?—"A missive." By what is a cricket "ball" covered?—Pieces

of leather. By what are they sewn together?—"Stitches." With what word does "ruffs" make an In. by S?—Ruffles. Where are old ruffles sometimes sold?—At auction. What is a characteristic word of auctioneers?—"Going?" Can you name a weaving machine?—"Loom." What does a sensitive man do when put in "chains?"—"Quail." Is "pie-crust" light or heavy?—Light. What is the opposite of "light?"—"Heavy." Whom do you "rock" in the cradle?—Babies. Can you give the name of a "baby" dog?—"Puppy." What class of people require "care" to be taken of them?—Wine-inebriates. Can you name the god of wine?—"Bacchus." What do we often associate the word "match" with? Marriage. Is the bride bold or shy?—"Shy." When does the moralist advise us to act uprightly?—"To-day." What kind of arguments do some people require to make them do this?—"Suasive." What does "fame" mean?—Enviable notoriety. What French servants enjoy the greatest notoriety?—Cooks. With what word does cook form an In. by S.?—"Cuckoos." When is a person "touchy?"—When he is overwhelmed with a great loss. What is the greatest loss?—Death of a parent. What do we say of a parent laid in the grave?—"Buried." How many fingers are there on each hand?—"Five." What name is given to the fourth finger?—The ring finger. Of what is the ring a pledge?—Of "Love." What was a Doge?—A Venetian chief magistrate. Whom does a magistrate often try?—Pick-pockets. What is an In. by S. with pick-pockets?—"Pick." Which of Jacob's wives was Rachel?—His chosen one. If we wish to be chosen for some special object, what should we say?—"Pick us." What is a perfect In. by S. with pick us?—"Picus." Does he 'accuse us?"—"No." What is another spelling for the sound of "him?"—Hymn. Who usually sing in church in the absence of a choir? The people. What is an old name for people?—"Folk." What does a person wish to do who regards his "home" as a prison?—"Escape." What does 'May" remind you of?—May-queen. Who was queen of beauty?—Venus. What city was sacred to Venus?—"Paphos."

If the pupil were to attempt to learn these seventy-one *unconnected* sentences by ordinary endless repetition, and if every repetition were written out and printed, a book of seven hundred pages would be filled; whereas, by the method of Assimilation, the seventy-one sentences are permanently learned in one hundreth part of the time required to learn them by rote.

It is seen that this method of Memory-teaching includes two distinct Systems.

The first makes no use of the Intellect or of the Imagination, but it appeals to the Memory to aid the Memory. Yet, indirectly and incidentally. the Intellect is invigorated, owing to the prodigious increase of concentration and the new activity of thought on the lines of Natural Association. This method uses Analysis and Synthesis to develop and build up the fundamental Associative Power, by awakening to its highest intensity the direct and immediate appreciation of In., Ex. and Con,, and in this most effective way it operates as a true Memory-TRAINER, permanently strengthening both stages of the Natural Memory and both functions of the Continuity, so that when the pupil has finished all the exercises in the manner prescribed, he will remember hereafter without any conscious thought or application of the system, except in the very rare cases of dealing with exceptionally complicated or technical matters. And although I use Analysis and Synthesis in thousands of practical applications, yet this Device for memorising particular things operates as a Memory-TRAINER also. Memory-TRAINING first, last and all the time is the object and main object in this method.

The second System, Interrogative Analysis, reaches the same goal by a different route. It works from above downwards. It trains the mind to quick and instantaneous grasp of new ideas and groups of ideas. It counteracts the distracting effects of our hasty harum-scarum habits of reading, thinking and acting. It develops the primordial Associative Power, and thereby tends to secure on all accasions vivid FIRST IMPRESSIONS. Let the pupil notice that by the first Method he learns the EXACT LANGUAGE and indirectly the ideas, and that by the second Method he learns the PRECISE IDEAS and THOUGHTS and indirectly the language which clothes them. Let the pupil master both Systems.

PART III.

RECOLLECTIVE SYNTHESIS.

Analysis is applied to words or ideas between which such a relation exists, as a master of Recollective Analysis can discover. Synthesis applies where *no relation exists.* The following are Pairs of unconnected Words or "Extremes:" "Anchor, Bolster,"... "Arrow, Treadmill,"... "Bee, Attorney,"... "Lash, Vicarious,"... "Slain, Moon,"... "Tea, Lover," and "Pen, Nose." How may these Extremes be coupled?

We had experience in learning the Presidential Series that the application of the laws of In., Ex and Con. enabled us to commit to memory that series in ONE-FIFTIETH OF THE TIME it would have taken had we not known those Laws. Most people could *never* have committed to memory such a long series by mere *rote* or *repetition*, and not one in a thousand could have learned to say that series backwards by *rote* alone. Yet any pupil easily learns that series both ways, because Analysis affords the highest possible aid to the Natural Memory. In fact, the *deepest* and *most abiding* impression that can be made upon the Natural Memory is by impressing it with the *relations* of In., Ex. or Con.; because these are the Memory-Senses (if the phrase be allowed), these are the eyes, ears, touch, taste and smell of the Memory; and we have only to impress the *Memory* according to the laws of its own nature and

the Memory will retain the impression. And this is exactly what our method does; for we translate every case of Synthesis into an Analytic series by supplying *Memory-intermediates* that grow out of the "Extremes," each one of which is an instance of In., Ex. or Con. Thus, every example of Synthesis becomes a *developed or extended Analysis.* To make this translation from Synthesis into Analysis requires no intellectual ingenuity—no constructive power of imagination—but only to *recall* to *consciousness* what we already *know* about the "Extremes" through In., Ex. and Con. I call these intermediates the Correlation, because they sustain the *direct immediate* and *specific* relation of In., Ex. and Con. to the "Extremes."

☞ *In.* will be represented by 1, *Ex.* by 2, and *Con.* by 3.

I herewith present our method of dealing with the above pairs of extremes:—

1 ANCHOR	[1] Sheet Anchor	[1] Sheet	[1] Bed	[1]	BOLSTER
Or,—	[3] Capstan	[1] Night-cap	[3] Pillow	[3]	—
Or,—	[3] Roadstead	[1] Bedstead		[1]	—
Or, —			[3] Sea Bed	[1]	—
2. ARROW	[3] Tell	[3] Apple	[3] Cider Mill	[1]	TREADMILL
Or,—	[3] flight	[3] Arrest	[3] Convict	[3]	—
Or,—	[1] Air	[1] Wind	[1] Windmill	[1]	—
3. BEE	[1] Beeswax	[1] Sealing-wax	[3] Title deeds	[3]	ATTORNEY
Or, —	[1] Queen bee	[1] Queen's Counsel		[3]	—
4. LASH	[1] Eye-lash	[1] Glass Eye	[1] Substitute	[1]	VICARIOUS
Or,—	[3] Driver	[3] Car	[1] Vicar	[1]	—
5. PEN	3 Ink	[1] Ink-bottle	[1] Smelling-bottle	[3]	NOSE
Or,—[3] Quill	[1] Feather	[1] Eagle	[1] Aquiline	[3]	—
Or,—	[1] Pensive	[2] Gay	[1] Nosegay	[1]	—
Or,—		[3] Wiper		[3]	—
6. SLAIN	[3] Battle	[3] Joshua		[3]	MOON
Or,—	[1] Struck-down	[1] Moon-struck		[1]	—
Or,—	[3] Fallen	[2] Risen		[3]	—
7. TEA	[1] Teaspoon	[1] Spooney		[1]	LOVER
Or,—	[3] Sugar	[1] Sweet	[1] Sweetheart	[1]	—
Or,—	[1] Tease	[1] Sir Peter Teazle	[1] Old Lover	[1]	—
Or,—		[1] Oolong	[1] Woo long	[3]	—

1. Neither Children nor Adults, who have thoroughly learned Recollective Analysis and practiced its exercises ever find the slightest difficulty in making Correlations, unless they are so afflicted with Mind-Wandering that they have never *digested* the impressions or knowledge they have received, or unless their intellectual operations have been twisted or wrenched out of the

natural order by the perversities of early education; but even in all these cases the *diligent* student will be able—usually before the Lessons are finished—at once to correlate any word whatever to any or all the words in any dictionary. A learned professor declared that no person unacquainted with astronomy could correlate "Moon" to "Omnibus." He did it thus: MOON—(3) Gibbous [one of the phases of the Moon]—(1) "Bus"—(1) OMNIBUS. I asked a pupil then present—a girl nine years old—to connect them. She instantly replied, "MOON—(1) Honeymoon—3) Kissing—(1)Buss—(1) OMNIBUS." A moment after she gave another: "MOON—(1) Full Moon—(I) 'Full inside'—(3) OMNIBUS." Once more: "MOON—(1) Moonlight—(1) Lightning—(3) 'Conductor'—(3) OMNIBUS.". Another pupil imagined it would be *impossible* to Correlate the following *letters* of the alphabet to *words* beginning with the same letters, as "A" to "Anchor," "B" to "Buli," "C" to "Cab" and "D" to "Doge"—as well as "Cooley" to "The." There are, however, no words whether *abstract* or *concrete*, no real or imaginary things that can be named, which the pupil cannot soon learn to correlate together with the greatest readiness, as:—

"A"	[1] First Letter	[1] First Mate	[3] Ship	[3]	"ANCHOR"
"	[1] Aviary	[3] Bird	[1] Flyer	[3] Flew Fluke	[1] ——
"	[1] April	[1] Rill	[1] Water	[1] Water-wheel	[3] Revolution
				[3] Capstan	[3] ——
"B"	[1] Bee	[3] Sting	[1] Sharp Pain	[1] Sharp Horns	[1] "BULL"
"			[1] Below	[1] Bellow	[3] ——
"C"		[1] Sea	[3] Ocean Steamer	[1] Cabin	[1] "CAB"
"D"	[1] "D,D,"	[1] Clerical Title	[1] Venetian Title		[1] "DODGE"
"COOLEY"		[1] Cooley articulated	[1] Definite Article		[1] "THE"

All possible cases to be memorised can be reduced to (1) ISOLATED FACTS, where each fact is correlated to some fact in its surroundings through which you must think as the *Best Known*, in order to recall it—many instances of dealings with Isolated Facts will be given in this lesson; or (2) SERIAL FACTS, where each fact must be remembered in the *exact order* in which it was presented to our minds—as is illustrated by many examples in this and subsequent Lessons.

Let the pupil NEVER FORGET that this System serves two distinct purposes: (1) That it is a Device for memorising any Isolated Fact or Serial Facts by means of memorised Correlations. (2) And that by memorising and repeating for a considerable period

Analytic Series, and especially by *making* and *memorising* one's own Correlations, it is an unequalled system of MEMORY-TRAINING. Let the ambitious pupil *learn every example given in the lessons in order to soon so strengthen his natural memory that he will no longer have to use the device for memorising, his natural memory permanently retaning all he desires to remember.* But this grand result comes only to those who carry out ALL the directions with genuine alacrity—not shirking one of them—but rather doing all I require, and as many more new examples as he can think of to which he can apply this Method.

By memorising the Correlations the pupil will find that hereafter the two EXTREMES are united in memory without his ever having to *recall the Correlations;* and to memorise a Correlation, he must at first, if his natural memory be weak, repeat from *memory* the intermediates forwards and backwards, thus:—ANCHOR... *sheet anchor... sheet... bed...* BOLSTER—BOLSTER... *bed... sheet... sheet anchor...* ANCHOR, at least three times each way. These six repetitions from memory, three forward and three back, are only required *at first.* In a short time the pupil will infallibly remember every Correlation he makes, merely from having made it, and, at last, his Memory will become so strong that he will no longer have to make any Correlations at all. And when he has repeated the Correlation, let him repeat the two extremes, thus—"Bolster" ... "Anchor"--"Bolster" ... Anchor"--"Anchor" ... "Bolster"--"Anchor". .. "Bolster." Nothing else is so easy to memorise as a Correlation, for a Correlation is simply an elemental primordial Physiological Sequence of Ideas in which one includes another, excludes another, or in which one idea has been so united with another in past experience that the two are henceforth inseparably connected in memory—and a little practice in making and *memorising* these Correlations soon makes it *impossible* to forget them.

RULES FOR MAKING CORRELATIONS.

(1) Let the number of Intermediates be usually not less than two, nor more than four. It is a waste of labor to try to connect unconnected extremes by only one intermediate. It is only accident that enables me to connect pen and nose by the single intermediate "wiper." *Accident* may even enable me to find a date-word that is vividly connected with the man or event, as, Death of Charles I., *Too Sharp*, [1649]; again, Harvard College founded, *Teach much* [1636]. Necessarily, the "extremes" are in different

spheres or planes of thought, and occasionly three or four intermediates are necessary to cement them together, but two usually suffice.

(2) A Correlation is a *successive advance*, and an intermediate must never refer back to any except its *immediate* antecedent, never to its second or third antecedent. A pupil sends this:—*Wavy hair* ...Harry...stepson...real son...more a son...MORRISON. Here, "more a son" refers to the comparison between "real son" and "stepson," but the latter is the second antecedent, and the correlation is therefore a defective one.

(3) A word may be used twice, but never three times; as, *Pen* ...pensive...gay...nosegay...NOSE. Here "gay" is properly used twice, and after that, it is dropped and you can go on with the rest of the word, to wit, *nose*.

(4) A compound phrase including a verb must never be used, since the intermediates must be the simplest elements, either sensations or perceptions [relations among sensations], or abstractions [relations among relations], or one of these with either of the others, and always exemplify either In., Ex. or Con.

(5) Our correlations are good for us, but may not be so vivid to others, especially the concurrences. To fix the date of Magna Charta (1215), the pupil could memorise this Correlation—MAGNA CHARTA...King John...Jew s teeth...DeNTaL. But if the pupil did not already know that King John granted that charter, and if he did not also know the story about the extraction of the Jew's teeth, to make him pay the royal exaction, there would be no Concurrence in regard to the first two intermediates, and he would have to learn the Correlation by mere repetition without aid from Analysis. In such a case, he would make and memorise his own Correlation, perhaps thus: MAGNA CHARTA...magnify...diminish ...DwiNDLe...(1215). Again: SIR CHRISTOPHER WREN...St. Paul's ...Cathedral bells...To CHiMe oN (born 1632)...sweet bells...tolling...burial...TaKeN hoMe (died 1723). If the fact that Sir Christopher Wren was the archtitect of St. Paul's were unknown to the pupil, there would be no concurrence in his mind between Sir Christopher Wren and St. Paul's, and he would then probably proceed thus: SIR CHRISTOPHER WREN...bird...mocking bird...mock...ridicule...To SHaMe oNe (1632)...shame-faced... assumed an "alias"...TooK a NaMe(1723). "Carcasses...The mad jaw" is a vivid concurrence to me, as I have seen a pack of starving wolves act like fiends in devouring and tearing to pieces the carcasses of dead animals. To a person unacquainted with such scenes, or who had never read about them, or to whom the impressiveness of such scenes might not occur, there would be no concurrence—in other words, "Carcasses...The mad jaw" would be a case for Synthesis, and the pupil must make a Correlation between them and memorise it, or else he must learn it by *ordinary repetition*. But if he makes his own Correlations, every concurrence he uses would be a *real* concurrence to him; and so with his Ins. and Exs. This is a decisive, unanswerable reason why the pupil should merely look upon our

Correlations as models, but make and memorise his own Correlations in all cases, as being more vivid to him, and therefore more certainly remembered, as well as more effectively training and strengthening the Memory in both its stages.

(6) Let him observe that vivid Ins. by *meaning* are usually better than Ins. by S., unless the latter are perfect. "Troop—loop," is a fairly good In. by S., but not perfect. Instead of saying, "*Hidden enemy*...hostile troop...LOOP," it would be better to say, "*Hidden enemy*...ambush...snare...noose...LOOP." EAR...EEL makes a weak In. by Ex., although the sound of long e begins each word, but it would make a much more vivid first impression to deal with them in this way: EAR...ear-ring...wring...twist...wriggle...EEL. But "Bivou*ac*...*aq*ueduct" is a perfect In. by S. as to the last syllable of the former and the first syllable of the latter, since those syllables, although spelled differently, are pronounced exactly alike. Hence, to connect Bivouac to Rain, we might well say, "*Bivouac*...aqueduct...flowing water...falling water...Rain."

(7) Let him *never*—under any circumstances—make a *second* Correlation until he has *memorised the first.*

(8) Above all, let the pupil bear in mind that although *making* and *memorising* Correlations serves the useful purpose of fixing specific facts permanently in the memory, yet that the main object in making and memorising Correlations is to develop the latent power of the Natural Memory to such a degree that all facts are hereafter remembered without usuing Correlations.

(1)—ISOLATED FACTS.

Correlate the *Isolated Fact* to some fact in its environment or *entourage* that is BEST KNOWN and which you are sure to think of when you wish to recall the Isolated Fact.

1. To remember PROPER NAMES, correlate the Person's Name to the name of some peculiarity of the Person as the BEST KNOWN, and which you are sure to THINK of whenever you think of the Person. If you *memorise* the Correlation, you will instantly recall the Name whenever you think of this Peculiarity.

To remember a proper name, Mnemonics simply resorts to In. by S. But this gives no starting point, no "Best Known," which you must certainly think of, and which will enable you to recall the name, *provided* you cement by a memorised Correlation the "Best Known" to the name itself; in fact, a similarity of sound *alone* and *by itself* is almost certain to mislead you into reviving itself instead of the name. A celebrated Member of Parliament who, in the days of his youthful simplicity and before he had tested Mnemonics, gave a high opinion of its value, was to deliver an address at the Birkbeck Institution, about eight years ago,

Resolving to pay a tribute of appreciation to its founder, Mr. Birkbeck, and always having found great difficulty in remembering proper names, he thought he would *fix* the name of Birkbeck in his memory by the mnemonical device of finding a word that resembled it in sound; and so he said to himself, "it reminds me of 'Pinchbeck.'" He commenced as follows: "Before coming to the subject on which I am to speak this evening, I desire first of all to pay a deserved tribute of praise to the founder of this great Institution, the celebrated Mr. PINCHBECK!" If he had mastered our System, his new memory-power would have enabled him to remember the true name without any device; or, if he had not received the benefits of this System as a Memory-Trainer, he could have infallibly remembered the name Birkbeck—which he was afraid he would forget, and which he did forget—by correlating it to the word "Founder," which he would certainly remember, and which he did remember, thus:—FOUNDER...found...lost...calling ...beckon ... BIRKBECK; or FOUNDER...foundation ... underground...grave...body-snatchers...Hare and Burke...BIRKBECK.

If he had memorised either of these Correlations by repeating them forwards and backwards two or three times, and then recalled the two extremes "Founder," "Birkbeck," several times, the moment he thought of Founder, he would instantly have recalled Birkbeck; for, when the Correlations are memorised, the two extremes are cemented together, without recalling the intermediates at all. But if he had thoroughly learned all the foregoing exercises, he would have received the benefit of this system as a Memory-Trainer, and then the mere *making* of a Correlation is the *infallible* remembering the two extremes together, without ever thinking of the intermediates.

Here are some examples of Correlations for coupling mens' names with their peculiarities, calling, etc.:—

Peculiarity.	*Correlation.*	*Proper Names.*
Cross-eyed	...cross-bow...	Mr. Bowman
Unequal eyes	...unlike size...	Mr. Zizer
Straight brows	...browsing sheep...	Mr. Shepherd
Snub nose	...short... shrub...shrubbery...	Mr. Berryman
Regular features	...straight...upright...walls...	Mr. Waller
Wavy hair	...dancing wave...Morris dance...	Mr. Morrison
Black eyes	...white snow...pure as snow...	Mr. Virtue
Red cheek	...cheeky...chastise...bruise...	Mr. Brewis

Peculiarity.	*Correlation.*	*Proper Names.*
Bare face	...dancing bear...tumbling...crooked fall...	Mr. Crookall
Small-pox	...plague...cattle plague...sheep...lamb...	Mr. Lambert
Retreating chin	...retiring...homebird...	Mr. Holmes
High instep	...boots...mud...peat...	Mr. Pete
White hands	...gloves...covered...shut up...warder...	Mr. Ward
Crooked legs	...broken legs...crushed...	Mr. Crushton
One arm	...coat of arms...doorway...hall...	Mr. Hall
Apprehension	...suspension...gallows...	Mr. Galloway
Mathematics	...mat...door-mat...	Mr. Dorman
Energetic	...work...laborer...spade...dug...	Mr. Douglas
Conceited	...lofty...upper room...chamber...	Mr. Chambers
Sombre	...sad...mourning...hat-band...	Mr. Hatton
Modes	...violet...flower...shrub...laurel...	Laura
Music	...stave...bar...	Mr. Barcroft
Violinist	...violin...flute...whistle...	Mr. Birtwistle
Organist	...pedal...foot...horse-shoe...blacksmith...	Mr. Smith
Cricketer	...field...park...stag...hart...	Mr. Hartley
Painter	...paint...colored cards...whist...	Mr. Hoyle
Publican	...beer...barrel...	Mr. Barrett
Clothier	...cloth...cloth coat...overcoat	Mr. Overstall
Plumber	...plum...currant...cake...victuals...	Mr. Whittles
Joiner	...Wood...ash...	Mr. Ashworth
Baker	...flour...white flour...	Mr. Whiteley
Engineer	...engine driver...smutty...black coat...	Mr. Coates
Gardener	...guard...secure...hold...	Mr. Holden
Printer	...type...picking up...pick...dig...	Mr. Delve

(2) To remember unfamiliar English words or foreign words, correlate the Definition as the BEST KNOWN to the Unfamiliar or Foreign Word, and memorise the Correlation. In the case of Foreign Words the last intermediate is necessarily a case of Inclusion by sound. The French word *Anachorete* would have for its equivalent by sound either "*Ann goes late*" or "*Ann a core ate*" or "*Anna's cold hate,*" and perhaps to some of our readers it would sound like something else. *Cravache* might sound like "Have hash" or "*Crack of lash.*" Pupils often disagree as to what is good Inclusion by sound, but the rule for each is to use what suits himself, and not to trouble about other people's ears. *In. by sound or by sense or by spelling*, is sufficient if it refers to *one syllable only.*

	Correlation.	Greek.
Merchant..	market..emporium..	emporos
Pearl	necklace..sweetheart..Sweet Margery	margarites
Move..	move on..next stage..next of kin..	kineo
True..	naked truth..pith of the matter..pithy	pithanos
Course..	coarse hair..camel-hair..dromedary..	dromos
Servant..	light fare..dole out..	doulos
Tanner..	leather..leather purse .disburse..	burseus
Cup..	tea-cup..tea-pot..	poterion
Fetters..	criminal..desperate..	desmos
Fragile..	thin..rapier.."thrust us"..	thraustos
Fruit..	fruit-knife..fish knife..carp..	karpos
Round..	round cable..strong..	strongulos
Bear..	suffer..servitude..Israelites..Pharaoh	phero
Bride..	fair..fairy..forest nymph..	numphe
Bread..	baker..baker's art..	artos
Marry..	lottery of life..risky game..	gameo
Join..	engaged..apt to disagree..	apto
"	engaged..suited..apt..	"
Culprit..	cull .select a few..few gone..	pheugon
Milk..	milky way..Galaxy..	gala
Drink..	water..small leak..pinhole..	pino
Suffer hunger..	dying of hunger..pining away..	peinao
Time..watch.	chronometer..	chronos
"	Father Time..old age..old crony..	"
Cover..	covert..cave..grotto..Calypso..	kalupto
Deliver..	capture..lasso..	apalasso
Spread..	feast..Christmas..deck a church.. dye a spire..	diaspeiro
Uncover..	bare..bare foot..a Kaliph's toe..	ekkalupto
Assign..	sign..mark..man of mark..hero.. intrepid..	epitrepo
Shut..	shut out..severe weather..bad climate.	kleio
I judge..	condemn..refute..refuse..cry "no"	krino
Found..	establish..fix..fasten thus..tie so..	ktizo
Entrust..	trustee..trustee meeting..dine..stew..	pisteuo
Soldier..	art of war..strategy..	stratiotes
		Latin.
Heart	..heart-sick..fainting..cordial..	cor
Wickedness	..dishonesty..black mail..	malum

	Correlation.	Latin.
Book	..printed thoughts..freedom of thought liberty..	liber
Breast	..front..front view..aspect	pectus
Spear	. thrust..quick motion..hasty..	hasta
Suitor	..princely suitor. married by proxy..	procus
Ask	..borrow..swindle..rogue..	rogare
Marrow	..old English arrow..victory..medal..	medulla
Captain	..head of hundred..century..	centurio
Surveyor	..measure..dimension..	agrimensor
Furniture	..bent-wood chairs..bent legs.. supple legs..	suppellex
Vine	..wine..luxury..pampered..	pampinus
Liar	..false pretence..mendicant..	mendax
Coachman	..carriage..'fine rig out''..	auriga
Cow	..cow pox..vaccination..vaccine..	vacca
Sing	..boatman's song..canoe..	cano
Kill	..kill by hanging..broken neck..	necare
Redden	..blush..kissing..ruby lips..	rubesco
Dry	..dry mouth..feverish..sick..	siccus
Man	..married man..home..	homo
War	..victory..rejoicings..bells rung..	bellum
Rob	..robber..hue-and-cry..policeman's rap	rapto
Tanner	..russet leather..russet apple.. apple core..coriarius	
Dove	..married love..state of union..United States..Columbia..columba	
Bench	..table..shop..counter..selling..	subsellium
Oar	..galley-slave..Roman galley..Rome Romulus and Remus..remus	
Garret	..store house..grain store..	granaria
Horse	..race..dead-heat..equal..	equus
Cock	..spurring..goading..galling..	gallus
Lazy	..tramp..knave..	ignavus
Make heavy	..rich food..gravy..	gravo
Sign	..musical signs..notes..	nota
Poverty	..drafty garret..sleeping draught.. opium..inopia	
Messenger	...mews... news...nonsense...	nuntius
Top	...high perch...hen's perch...cackle...	cacumen

	Correlation.	Latin.
Face	...bare face...bare-headed bird... vulture...	vultus
Useless	...needless impatience...irritation...	irritus
Dark	...dark staircase...insecure...	obscurus
Writer	...bad writer...scribbler...	scriba
Harvest	...Harvest home...Mrs. at home?...	messis
Dog	...dog's tail...tin can...	canis
"	...cane-carrier...cane...	canis
Egg	...boiled eggs...boiled hard...over-boiled...	ovum
Fox	...jackal...carcass...vultures...	vulpes
Bread	...sweat of brow...labor...pain...	panis
"	...bread-pan...	"
Table	...figures..calculation..mensuration..	mensa
Master	..schoolboard..fines..magistrate	magister
Tree	..mast..ship..harbor..	arbor
Mother	..wife..helpmeet..help-mate..	mater
		Germam.
Joy	..play day..free day..Friday..	Freude
Sad	.."sad sea waves"..boat..outrigger..	traurig
Clear	..clear tones..clarionet..	klar
Indolent	.."lazy bones"..lazy lass..	læssig
Dangerous	..storm..steamboat fare..	gefæhrlich
Part	..part of house..roof..tile..	Theil
Empty	..hollow..fox's hole..lair	leer
Take	..take husband..new name.	nehmen
Diffidence	..shyness..shy..	scheu
Little	..grow less..on the wane..	wenig
Much	..wanting..fill up..	viel
Recompense	..prize..game..lawn tennis..lawn..	Lohn
Question	.answer..fragmentary answer..	Frage
Pressure	..heavy load..truck..	Druck
Voice	..voice lozenges..stimulation.	Stimme
Child	..young kindred..	Kind
Threaten	..stinging words..stinging bee..drone..	drohen
Mirror	..reflection..spy-glass..	Spiegel
Beetroot	..red..ruby..	Rube
Potato	. dig up..remove..cart off..	Kartoffel

	Correlations.	German.
Love	..lover's meeting..meat..Liebig's Extract..	Liebe
Campaign	..battlefield..Field Marshal..	Feldzug
Medicine	..science..arts.. (*pr.* artsnei)	Arznei
Evening	..hour of prayer. bend the knee..	Abend
Apple	.."windfall"..cold wind..wrap well..	Apfel
Heaven	.angels..sing hymns..	Himmel
Song	..choir..choir leader..lead..	Lied
Table	..soiled with use..dirty dish..	Tisch
Bottle	..Leyden jar..electric spark..flash..	Flasche
Castle	..siege..battle..lost..loss..	Schloss
Honor	.esteem..steam..vapor..air..	Ehre

		French.
Fat	..fat ox..clover .rich grass..	gras
Mouth	..flesh-eater..butcher..	bouche
Asphalt	..asafœtida..fish bait..	beton
To lash	..horsewhip..one-horse chaise.. single horse .	cingler
Armchair	..reclining..gouty..foot oil..	fauteuil
Railway station	..railway guard..guard..	gare
Smoke	..tobacco..smell..perfumer..	fumer
Carpet	..fine design..tapestry..	tapis
Head	..foot..root..potato..	tete
Car	..ship..ironclad..ram..	rame
Tears	..hysterics..fainting fit..alarm..	larmes
Canvas	..roap..oakum..hard labor..toil..	toile
Wave	..washing..unwashed..vagabond..	vague
Bed	..bed of sea. sea-shore..lee-shore..	lit
Pane	..pain..sore eyes..vitriol..	vitre
Gun	..gunsmith..spark. fuse.	fusil
Shovel	..shoved about..crowd..Pall Mall..	pelle
Side-walk	..walking fast. trotting along..	trottoir
Dirty	..dirty business. bankruptcy.. enforced sale..	sale
Faithful	..dog..blind fiddler..fiddle..	fidele
Pity	..pitying..misery..	misericorde

	CORRELATIONS.	FRENCH.
Misfortune	..missing train..mail hour..	malheur
Happiness	..love..courting..bonnie hour..	bonheur
Hang fire	..fire engine.."haste"..tear along to..	faire long feu
Star	.starling..bird..ostrich..head-dress..toilet..	etoile
Cake	..cheesecake..cheese..mouse..cat..	gateau
Sword	..soldier..soldier's pay..	epee
Book	..pages..leaves..	livre
Castle	..ruined..shattered..	chateau
To speak	..converse..dispute..parley..	parler
		ITALIAN.
Basket	..horse-basket..pannier..	paniera
"	..bag..collection bag..church..corbel..	corbello
"	..bread basket..Æsop.."frog and bull"..bellow..	"
"	.."basket of flowers"..fruit..prunes..prunello..	"
"	..casket..ring..bull..bellow..	"
Hour	..late hour..evening meeting..applause .hurrah..	ora
Gold	..nugget..ore..	oro
His	..his own..zone..bind..sew..	suo
Thy	..thy face head..foot..toe..	tuo
Uncle	.."Dutch uncle"..Holland..Zuyder Zee..	Zio
Pius	..church..pew..	Pio
Month	..May..mace..	mese
Made	..servant maid..cook..fat..	fatto

Synonyms, as well as words having but a slight difference in sound, like *Insidious* and *Invidious*, are easily discriminated by *memorised* Correlations: INSIDIUS..inside..hole..fox..TREACHERY.—INVIDIOUS..invade..warlike revenge..ILL-WILL.

(3) To remember the *Date* of the *Birth* and *Death* of great men, correlate the SURNAME as the BEST KNOWN to the word expressing the date of BIRTH, and then correlate the BIRTH WORD to the DEATH WORD:—

Napoleon Bonaparte
Banishment...embakation...
Took ship..ship..masthead..Godhead..

born 1 7 6 9 Took ship
died 1 8 2 1 Divinity

Robert Burns.
Scotch Poet..map of Scotland..map of the world..
The globe..geography..schoolbook .page

born 1 75 9 The globe.
died 1 7 9 6 Waiting page

Oliver Goldsmith.
Poverty..plenty..
Took enough..bread enough..prodigal son..

born 1 7 2 8 Took enough.
died 1 7 7 4 The younger.

Henry Cavendish.
Tobacco..bird's eye view..telescopic view..
Harbinger of war..decisive battles.

born 1 7 3 1 The comet.
died 1 8 10 "The fights."

Wolsey.
Butcher..steel..straight
Wrecked..gored..horns..

born 1 4 71 Direct.
died 1 5 3 0 Dilemmas.

Richelieu.
Abel..death of Abel..
Burial..urn burial..

born 1 5 8 5 Doleful.
died 1 6 4 2 Dutch urn.

Chatterton
Forgery..crime..black gallows..
Balloon..hollow..kettledrum..

born 1 7 5 2 White gallon.
died 1 7 7 0 Tea cakes.

Thomas Carlyle..
"Sartor Resartus"..sarcastic..ill-tempered..ill
Dinner pill. weak digestion..mastication..

born 1 7 9 5 Took a pill.
died 1 8 8 1 Tough food.

Charles Darwin.
"Natural Selection"..the chosen one..
Greatest happiness..

born 1809* Happy.
died 1 8 8 2 To have heaven.

George Eliot.
Adam Bede .add..
Money..£10..

born 18 20 Advance.
died 1 8 8 0 Two fives.

To memorise other specific Events or Facts, Correlate the name of the Place or Fact to the Date-word or other Fact, thus:—

Great Earthquake at Lisbon, 1755— 1 7 5 5
LISBON..Listen..Hush!.. TALK LOWLY.

---

* It is sufficient to indicate the figure 9, as we know that it could not have been the year 9 of the Christian Era, and, as it was somewhere about the beginning of this century, the figure 9 makes an indefinite impression definite and exact.

SORATA, the highest peak of the Andes, 21,286 feet high.

2 1 2 8 6

SORATA..sore..cured..salt fish. UNEATEN FISH.

The specific gravity of Iridium is 22.40 2 2 4 0

IRIDIUM..I ridicule..Ridiculous..All laugh..NONE SERIOUS.*

HEIGHT OF ARARAT (17,260 feet)—

Noah's Ark..Ark of the covenant.. 1 7 2 6 0

Philistines attack. ATTACK NO JEWS.

FOUNDATION OF ROME— 7 5 3

Seven hills—uphill.. CLIMB.

FIRST PRINTING IN ENGLAND— 1 4 7 1

Book .pamphlet.. TRACT.

COUNCIL OF TRENT— 1 5 4 5

Trent..rent..rent roll.. DAILY ROLL.

America discovered in 1492— 1 49 2

AMERICA..Merry..Sad..Sad irons..Handcuffs.. TURPIN.

North American Review was established 1815—

NORTH AMERICAN REVIEW..Criticism.. 1 8 1 5

Cleverly done.. DEFTLY.

Mariner's Compass was invented, 1269— 1 2 6 9

MARINER'S COMPASS..pocket compass.. TINY SHAPE.

Mesmerism discovered 1789— 1 7 8 8

MESMERISM..mesmerising..imparting a fluid.. TO GIVE OFF.

MEMORISING AN EXTACT FROM QUAIN'S ANATOMY.

"The branches of the External Carotid Artery are eight in number, viz.—three directed forwards, the superior thyroid, the lingual, and the facial; two directed backwards, the occipital and the posterior auricular; and three extending upwards, the ascending pharyngeal branch, together with the temporal and internal maxillary, the two terminal branches into which the artery divides."

Neither the mnemonics of Ingenuity nor the mnemonics of the Imagination can afford any assistance in memorising the facts in the foregoing passage, but they are easily learned by means of Correlations (to be memorised) as follows:—

CAROTID.. rotten..ruinous..IVY (eight branches)..
growth..advance..go forwards..

---

* See Supplement to First Lesson concerning the expression of decimals.

FORWARDS..	lead forwards..conduct..ductless.. spheroid..whole earth..many languages..	THYROID LINGUAL
	tongue..mouth..	FACE
BACKWARDS	front..back..back of head..occiput..	OCCIPTAL
	occult..secret..confession..	AURICULAR
	aureous..golden..high-priced..high up	
UPWARDS..	ascending	ASCENDING PHARYNGEAL
	pharos..lighthouse..intermittent light ..temporary..	TEMPORAL
	"be temperate"..maxim..	MAXILLARY

To memorise the attachments of muscles, the student must first of all familiarise himself by diligent dissection with the aspects of the muscles and the actual facts of their attachments. It is possible our to memorise their origins and insertions by System, merely from their written descriptions; but this is not *learning*. It is a vicious system of cramming, which can do no possible good. Once the student has thoroughly familiarised himself with the actual facts, he can proceed to fix these facts in his memory with definiteness and precision by our Sytem. In dealing with facts of such complexity as the origin and insertion of muscles, it is necessary to have free recourse to the assistance of homophones, etc. In the whole of anatomy there is no task so difficult as that of learning the precise attachments of the muscles of the back. Only a small proportion of students ever master these attachments thoroughly, and those who do learn them are unable to retain them for more than a very few days together. By the use of our System it becomes easy for any student to learn the whole of the attachments, as well as all the other facts of Anatomy, or of any other study; and, once thoroughly learnt, they will never be forgotten. Let it be thoroughly understood that our System is no substitute for dissection and experiment. You can get a COMPREHENSION of anatomical facts only by actual experience, and to attempt to acquire an *understanding* of them from books is to substitute a knowledge of words for a knowledge of things.

The following examples will indicate one way in which the student may proceed in order to memorise the attachments of the muscles of the back:—

(1.) First make a homophone of the name of the muscle.
(2.) Indicate each attachment of the muscles by two words.

The initial letter of the first word should indicate the part of bone to which the muscle is attached—*e.g.*, Sp=spinous process, T=transverse process, R=rib, etc. The second word should indicate by its consonants the *numbers* of the bones to which the attachment is made.

(3.) Correlate the homophone of the muscle to the first pair of words, and the first pair to the second pair.

EXAMPLE.

"The SPLENIUS COLLI is attached inferiorly to the spinus processes of the third, fourth, fifth aud sixth dorsal vertebræ, and superiorly to the transverse processes of the first two or three cervical vertebræ."

spleniuS COLLi (homophone) SCOLD.
SCOLD..cold..marble..image..SPLENDID IMAGE..
statue..statuette..chimney ornament..clock..'TIS TIME.

In the first pair of words the initial of Splendid shows that the attachment is to the Spinous processes, and the word Image indicates that the vertebræ implicated are the third to the sixth. The second pair shows that the transverse processes from the first to the third are those into which the muscle is inserted.

"The SPLENIUS CAPITIS arises from the spines of the seventh cervical and two upper dorsal vertebræ and from the ligamentum nuchæ. It is inserted into the lower and back part of the mastoid process, and into the outer part of the superior curved line of the occipital bone."

spleniuS CAPitis (homophone) ESCAPE.
ESCAPE..flight..projectile..trajectory.conic section..
SPLIT CONE.
split..spliced..tied..ligatured.. LIGAMENTUM NUCHÆ.
new keel..ship..mast.. MASTOID.
masticate. eat..drink..sip.. OCCIPITAL.

REMARK—The impatient, impulsive and wholly unreflecting pupil sometimes says, "Easy as learning by your System is, *it does take time to learn by it!*" Yes, he is quite right. It takes some time; but, the true mode of judging this System is, to compare the time required by the unassisted Natural Memory to learn the exercises of this and the other lesson papers with the time taken to learn them by the aid of this System! Without its aid, the unassisted Natural Memory would require a very, very long time to

learn them [the great majority of unassisted Natural Memories could *never* learn them], and a dreadfully tedious wearying work it would be. With this System's aid, they can all be easily and pleasantly learned in *one hundredth part* of that time. This is the honest way to look at it.

(2)—SERIAL FACTS.

These are facts that must be united in the memory in the *exact order* in which they occur. In learning the Dates of the Accession of the Kings of England, it would not answer to place William the Conqueror after Queen Elizabeth, nor Queen Elizabeth before the Conqueror. The Dates of the winnings in the Oxford and Cambridge University Boat Race, as given in the next Lesson, is an instance of Serial Facts. All prose and poetry is also an illustration where you wish to retain, not merely the ideas, but the exact expression. Each word must be remembered in the precise order in which it is set down. I only add that the *first* of a set of Serial Facts is always treated as an ISOLATED FACT, and connected with something THROUGH WHICH the pupil must necessarily THINK in order to reach that fact—as "President" is united to "Washington."

A Homophone (In. by S., with the entire name or with only a part of it) of single names can be used for a correlating word instead of the name itself. Thus, *Wolf* may be used for Ethelwolf, *Stand* for Athelstan, *Swain* for Sweyn, *Berth* for Ethelbert, etc., etc. But, where there is more than one King of the same name, we may use a Double Inclusion—that is, the *first* one or more letters of the King's name or place, or the *first* one or more letters of any syallable of his name is used, and then the final consonant is a *t* or a *d*, or *n*, etc., to show that it is the *first* of that name (as *Her*ald for Harold I.) or the *Second* of that name (as *Her*on for Harold II.), etc., etc.; or as, *War D* for Edward I., *War N* for Edward II., and *War M* for Edward III. Here we deal with the last syllable of Edward instead of the *first* letter *E*. This discriminates the three Edwards before the Conqueror from the six Edwards who come after: for all of the latter are represented by *E* as the first letter of Edward and the last consonant tells which Edward it is; as, *EdiT* for Edward I., *EdeN* for Edward II., *EmporiuM* for Edward III., *EaR* for Edward IV., *EeL* for Edward V., and *EtCH* for Edward VI. The authority for the following dates is "Haydn's Dictionary of Dates." If the pupil finds that this history gives difierent

dates, he can readily adopt other Date-words and Correlations on the model of those below. If any pupil wishes to learn science, geography, or speaking without notes, or anything else, let him memorise the following series of Kings with their dates, as hereafter given. No pupil must learn a correlation he does not understand. He must alter it, or make another. And if he has a poor memory he must not expect to strengthen it, unless in every case he makes his *own* correlation and properly learns it.

The Wise Judge [1066]
wisdom
WIT [William I.]
witless
sharper
Deceiving [1087]
"A mocker"
WINE [William II.]
unsteady walk
tiny feet
"*Tootsies*" [1100]
lowest extremity
highest extremity
HEAD [Henry I.]
head of table
meal
Hot oatmeal [1135]
porridge-bowl
round
pointed
STEELE [Stephen]
church
ecclesiastic
scholastic
Tutelar [1154]
mother
brood
HEN [Henry II.]
henceforward
looking forward
The day of hope [1179]
despair
despond
pond
REED [Richard I.]
"Bruised reed"
weakling
dying child
Dead baby [1199]
coffin
flowers
JONQUIL [John]
goose-quill
roast goose
dish-cover
Tin dish [1216]
tinsmith
locksmith
hemlock
HEM [Henry III.]
hemorrhage
bloody deed
Duncan's murder
Duncan [1272]
Play of Macbeth
new edition
EDIT [Edward I.]
writing desk
desk covering
Damask [1307]
rose
garden
EDEN [Edward II.]
serpent
devilish
Demoniac [1327]
furious
martingale
mart
EMPORIUM [Edward III.]
Emperor
autocrat
democrat
Demagogue [1377]
levelling
RUIN [Richard II.]
ruined health
drunkenness
To imbibe [1399]
liquid

hair-dye
HAIR [Henry IV.]
curling-tongs
heat
dried
Dry theme [1413]
threadbare topics
May Meetings
Exeter Hall
HALL [Henry V.]
hauled out
drawn in [1422]
drawing
portrait
silent mouth
HUSH [Henry VI.]
hush it up
crime
Tragedy [1461]
theatre
listeners
EAR [Edward IV.]
ear-trumpet
trumpet of fame
True fame [1483]
false
slippery
EEL [Edward V.]
mud
soft ground
terra firma
Teraphim [1483]
household gods
house
ROOM [Richard III.]
rheumy
watery eyes
Tearful [1485]
crying tears
hue and cry
hack and hew
HACK [Henry VII.]
hacking cough
impediment
To lisp [1509]
to hum
HIVE [Henry VIII.]
beeswax
waxed thread
Tailoring [1547]
sewing needle
etching needle
ETCH [Edward VI]
sketch
landscape
trees
Tall elm [1553]
Windsor Forest
Merry Wives of Windsor
MERRY [Mary]
single blessedness
dual life [1558]
exciting life
betting man
BETSY [Elizabeth]
Betso
Venetian coin
Venetian court
Doge's home [1603]
street of water
Blackpool
JET [James I.]
black-board
slate
additional sum
Additional [1625]
add on
cut off
CUT [Charles I.]
shave
razor
Too sharp [1649]
sharp practice
too common
COMMONWEALTH
rich soil
Dutch loam [1653]
Holland
dykes
protection
PROTECTOR [Oliver Cromwell]
Thick shell
Wide shelf [1658]
wide-spread
bridal breakfast
RICH CRUMBS [Richard Cromwell]
indigestion
Eat jalap [1659]
Lapland
reindeer
reign

INTERREGNUM
interview
two persons
Two judges [1660]
cattle show
dairy
CAN [Charles II.]
milk
skimming dish
Dishevel [1685]
tipsy woman
gin
juniper
JUNE [James II.]
Juno
Goddess
House of God
The chief Abbey [1689]
Poet's Corner
Poet's fancy
WHIM [William III. and Mary]
freak
spree
intoxicated
Tocsin [1702]
alarm
frantic
ANTIC [Anne]
antiseptic
medicine
Doctor [1714]
disease
GOUT [George I.
gouty toe
swollen
Thickening [1727]
projecting
projectile
GUN [George II.]
fowling-piece
pointers
Dog shows [1760]
poultry shows
wild birds
GAME [George III.]
gaming house
trickster
seared conscience
Toughness [1820]
tarred ropes
rigging
GEAR [George IV.]
royal finery
imperial purple
famous dye
Die famous [1830]
glory
battle
WAR [William IV.]
camp
picnic
Day of maying [1837]
merry-making
rejoicing
VICTORY [Queen Victoria]

The foregoing (as well as similar exercises in other Lessons) is given as a Memory-training task, and a specimen of dealing with Names and Dates when they alone have to be learnt, and not as a model of the best way of dealing with Dates generally. They ought to be learnt in their places as you meet them in the study of History.

HOW TO LEARN MORSE'S TELEGRAPHIC ALPHABET AND THE ARMY FLAG SIGNALLING CODE IN ONE LESSON.

(1) In this Alphabet, Dots and Dashes are used to represent the letters of the Alphabet. When the equivalents of each letter in Dots and Dashes are learned, the pupil only requires

practice with the machine to become an expert Telegraphic Operator.

In learning Morse's Alphabet, I use *temporarily* and *provisionally* the word Short for Dot—and the word Long for Dash—and to represent Short I use the letter S, and for Long I use the letter L. So, hereafter, L always means a Dash and S always means a Dot. The letter A is represented by a Dot and a dash, thus (. ——); and in my way it is represented by S, L. B is represented by a Dash and three Dots, thus (—— . . .) or in my way by L S S S.

(2) Now, as in my Figure Alphabet neither *h* standing alone, nor *w* nor *y* was ever reckoned, so in this case *h*, *w* and *y* are never considered. But, whilst not reckoning vowels at all, nor *h*, *w* or *y*, however combined, I *do* count any two other consonants coming together as two separate consonants, contrary to the rules of the Figure Alphabet. The only consonants I consider or make use of, are L and S.

(3) The pupil is now prepared to make a word that shall indicate Dots and Dashes. What is the equivalent, in Dots and Dashes, of the word Soil? It means [see above] S Short [Dot], and L Long [Dash], or the letter A. Now to remember that A in the Morse Alphabet is represented by a Dot and Dash, or by(. ——) I must correlate the letter A to the word Soil. Memorise the Correlation, thus: A..ale..hop gardens..SoiL.

(4) To remember that B is represented by a Dash and three Dots or by (—— . . .) I must correlate the letter B to the word LaSSeS, thus: B..bee..spelling bee..LaSSeS. Let the pupil not proceed to the next letter till he has thoroughly memmemorised the Correlation of the one he has reached—one at a time and perfectly, and he will soon be able to instantly answer as to the equivalents in Dots and Dashes of each of the letters of the alphabet. And then, and not till then, let him commence his practice with the Telegraphic machine. And if the Pupil has a poor memory let him make his own Correlations, and learn *them* instead of learning mine. The most rapid and reliable Telegraphic Operator I ever knew, told me that it took him three months to learn Morse's Telegraphic Alphabet or Code given below, and yet he said that if he had then known my System, he could have learned it perfectly in one hour.

A	ale..hop gardens ..	..SoiL	. ——
B	bee..spelling bee..lads..	..LaSSeS	—— . . .

C	sea..damaged ship..fallen mast..	..LieS LooSe	— . — .
D	dear..sweetheart..jilted..	..LoSS	— . .
E	.. ..	..eaSe	.
F	effort..rope-dancer ..	..hiS SoLeS	. . — .
G	gee..plough..furrow..old age ..life's winter..	..hoLLieS	— — .
H	aspirate..asphalte..road.. .. toll road..	..aSSeSS	. . . .
I	eye..cold eye..serpent	..hiSS	. .
J	jay..blue..paint..oilman	..SeLL oiL	. — — —
K	cayenne..hen..Gehenna.. pit-hole..	..whoLeSaLe	— . —
L	ell..old yard..farmyard.. jackass..	..SLy aSS	. — . .
M	eminent..high position..	..hiLL	— —
N	energetic..indolent..lawless	..LawS	— .
O	oath of allegiance..	..LoyaLLy	— — —
P	pea-seed..sow thoroughly	..SLowly Sow	. — — .
Q	acute..cunning..deep..well .. awe..	..aLL iS Low	— — . —
R	arbitrary..autocrat..ruling alone..	..SoLuS	. — .
S	Esquimau..snow..alps	..SwiSS	. . .
T	teacup..cracked..leaky..	..hoLe	—
U	yew bow..bowman..attack	..aSSaiL	. . —
V	venous blood..loss of blood.. faint sighs..	..SighS So aLway	. . . —
W	double..duplicity..simplicity..	..SiLLy	. — —
X	executed..homicidal perjury	..LieS SLay	— . . —
Y	wise. foolish..idiotic puller	..hauL a SheLL	— . — —
Z	zeal..warmth..cold..hail (or), said he..called her	..haiL a LaSSie	— — . .
&	join together..overcrowded hovels..	..aLL iLL	— — — —

In army Signalling by means of flags, the above Code is used as described above, with a few points in addition. If the pupil wishes to add any further particulars, or should any changes be adopted at any time, he will know how to deal with them—in fact, as in other cases, so in this, it is better for him to make and memorise his own Correlations.

FULL STOP (.) ..point..point out..see..eyes
..three eyes..III, or . . . . . .
ERASURE ..blot out..dot out..dotted
line..line of dots . . . . . .
STOP ..leave off..don't tease..T's
..line of T's..— — — — —
GENERAL ANSWER..correct answer..right..
"right to a T"..T —
REPEAT ..mock..imitate..I M I, or . . — — . .
SIGNALLER'S INDICATOR.. indication..clear
..hazy..A's..two A's.. . — . —
CIPHER SIGN ..Ci..Ci. C C.. — . — . — . — .
BREAK SIGNAL..break. bend..lean..
foreshorten..four short . . . .
MESSAGE ENDS..end..extremity..lower
extremity..toe..VEto..VE . . . — .
OBLITERATOR ..literary..letter..double
letter..WW . — — . — —

From the foregoing exercises it will be seen that there are no facts, however complicated, of Science, History, etc., or in Daily Life, which my System cannot cope with and render their mastery easy—proving thus the greatest possible Labor-Saver and Time-Saver, and therefore Money-Saver.

Let the pupil endeavor to apply the principles involved in dealing with the foregoing examples to OTHER and DIFFERENT cases.

Let the pupil regard my Correlations as Samples merely to show him how Correlations are made, and let him *make* and *memorise* his own in all cases. Let the pupil not fail to memorise the Proper Names, Dates of Birth and Deaths of Great Men, and the Order and Dates of the Kings of England. But it would be better still if he learned ALL the exercises, and if he takes little interest in some of them, the better *they* are as a true MEMORY-TRAINER and CONTINUITY-TRAINER.

PART IV.

PREDICATING CORRELATION.

What do I mean by Predicating Correlation? I mean the *practice* of finding numerous predicates of a word, predicates that are related to it through In., Ex. or Con. Suppose you desire to correlate the word "Weaver" to the word "Kin," and suppose you cannot find intermediates as quickly as you wish to, you can turn this difficulty into a means of learning how to make Correlations. in all cases whatsoever, by proceeding *scientifically* and *exhaustively* in such cases to find as many predicates as you can that are related to each of these "extremes" through In , Ex. and Con., and only indirectly to each other; placing over the word that sustains the relation of In. to the "extreme" the figure 1, the figure 2 for Ex., and 3 for Concurrence, thus:--

3 3 3 3 3
"The Sisters three," Linen, Cloth, Thread, Wool, Child's Loom,
3 3 3 3 3 3 1
Shuttlecock, Cloth, Spitalfields, Yarns, Spindle, Woof, Spider,
3 3 3 3 3
Fate, Web, Captain Webb, Coventry, Wool, Steam-power Loom.

Proceed in the same way with the next extreme. "Kin," thus:—

1 1 1 1 1 1
"The Sisters three," Napkin, Doeskin, Connection, Kink, Lamb-

1 1 1 1 1 1
kin, Kindergarten, Kintal, Kinship, Pumpkin, Relation, Manikin,
1 1 1 1 1
Family Affection, Household Relation, Consanguinity, Cousin,
1 1 1 1
Affinity, "One touch, etc.," Blood Relations, Kindler.

After an exhaustive enumeration of all you know of each extreme it would be easy to make Correlations thus:—

WEAVER.	KIN
1. — "The Sisters three."	"
2. — Linen..Nap*kin*.	"
3. — Cloth..Does*kin*.	"
4. — Thread..Connection.	"
5. — Thread..Snarl..*Kin*k.	"
6. — Wool..Lamb..Lamb*kin*.	"
7. — Child's Loom..*Kin*dergarten.	"
8. — Shuttlecock..Throw..*Kin*tal.	"
9. — Cloth..Sails..Ship. *Kin*ship.	"
10. — Spitalfields..Cornfields..Pump*kin*.	"
11. — Yarns..Sailors' Yarns..Narrative..Relation.	"
12. — Spindle..Dwindle..Dwarf..Mani*kin*.	"
13. — Woof..Warmth..Affection..*Family* Affection.	"
14. — Spider..Cobweb..Old House..Household Relations.	"
15. — Fate..Hopeless..Sanguine..Consanguinity.	"
16. — Web..Deceit..Cheat..Cozen..Cousin.	"
17. — Captain Webb..Swimmer..Fish..Fin..Affinity.	"
18. — Coventry..Lady Godiva..State of Nature.. "One touch," etc.	"
19. — Wool..Hair..Hare & Burke..Accomplices in Blood.. Blood Relations.	"
20. — Steam-power Loom..Engine..Furnace..Coal..*Kin*dler.	"

By this practice of finding as many Predicates as possible of each "extreme" through In., Ex. and Con., the pupil learns to look on "all sides" of a word or subject—a habit of the very greatest value—a habit which can be *acquired* by the careful dealing in this way with all the words in the Presidential Series, and by placing over each word 1, 2, or 3 to show the relation that it bears to the Correlating Word itself.

Readiness in making Correlations comes not from the constructive power of the imagination—the imagination is not at all

concerned in the act; people can make Correlations *instantly* who have no imagination—but it arises from the memory power of taking quickly an "account of stock" of the ideas we already possess—the power of *consciously summoning up* all we know of a word or subject through In., Ex. and Con. It is the exercise of *retentiveness* and nothing else, except that revivals are limited to In., Ex. and Con.

REMARKS.—Pupils can strengthen their retentiveness or *reviving power* by recalling and describing to friends the scenes and events of the day, as soon after their occurrence and as frequently as possible. Let them also never hear a lecture or sermon without giving as full an account of it as they possibly can to their acquaintances. They will soon find in what particulars their mind wanders, and they can hereafter pay closer attention to such matters. If is a high attainment to be able to give a graphic description of a scene, a show or exhibition of any kind; but I recommend this practice because it invigorates the reviving power of the Memory, and helps to bring the Memory under the control of the Will. Let the pupil repeat many times every good story or anecdote he hears, etc., etc. I have known many pupils who had naturally no *command* of language, and whom the phrenologists would have discouraged from attempting to acquire instant control over words, become *fluent* talkers and speakers, by acting on the suggestions here given, and by doing all the exercises demanded by our System. And it does not take one-tenth of the time that one might suppose. It comes about so quickly that the pupil can scarcely perceive when the change took place.

ALWAYS ABRIDGE THE PROBLEM OF MEMORY.

EXAMPLE.—There are three kind of Levers:—

First Order.—When the Fulcrum is between the Power and the resisting Weight. [Here the Fulcrum in the middle.]

Second Order.—When the Fulcrum is at one end and the Weight nearer to it than the Power. [Here the weight in the middle.]

Third Order.—When the Fulcrum is again at one end, but the Power nearer to it than the Weight. [Here the Power in the middle.]

Or, briefly—

1st Order.—Fulcrum in the middle.
2nd Order.—Weight in the middle.
3rd Order.—Power in the middle.

☞ When, as in First order, the Fulcrum is in the Middle, it is obvious that the power is at one end and the Weight at the other end. So by remembering in each case which is in the *Middle*, the pupil necessarily *knows* that the other two elements are at the ends. Since both Order and Middle are repeated in each case, both Order and Middle may be disregarded, and all the pupil has to do is to correlate [and memorise his Correlation], First to Fulcrum, Second to Weight, Third to Power, and he knows the three kinds of Levers—

First	..first piece..last piece..crumb..	Fulcrum.
Second	.minute..hour..clock..clock-weight..	Weight.
Third	..third finger..ring..political ring.. political power..	Power.

OXFORD AND CAMBRIDGE UNIVERSITY BOAT RACE, 1829—1885.

The *thoughtful* pupil will notice the following particulars in this Method:—(1) To indicate a Date, translate the two last figures of it into a word, as, for 1836, use Match, as that translates 36—and these Date-words, Correlate together; and to indicate when Oxford won, add *d* or *t* to the Date-word, thus making in all the Oxford cases a word containing *three* sounded consonants (thus "A Round"=42 and "one," in 1842 Oxford won); then by *Exclusion*, all those words containing only two sounded consonants *must* be Cambridge winnings. Similarly, in learning the Dates of the Battles of any country, we could indicate, by an added consonant, the battles won, and all Date-words lacking that designation must denote battles lost, etc. The application of this principle is varied.—(2) To indicate the two years, 1831 and 1835, when no race was run, but in which a notable event occurred, translate the entire years, as, 1831 into "DEAF MAID," and 1835 into "A TOO HEAVY MAID." And to indicate the year 1877, when neither Oxford nor Cambridge won, but when there was a "dead heat," use the phrase, "To have a Gig."—(3)Since the Putney course has been used, all but nine of the races have taken place on a *Saturday*. Fix two exceptions, after having first Correlated the Time of the Races; thus, "Time"—end of time—end of the week—

"Saturday."—(4) As Oxford won *continuously* from 1861 to 1869, both inclusive, it is sufficient to Correlate Date-words for those two years together, thereby inferentially indicating the intermediate years.—(5) As there was a race *every year* from 1856 to 1885, it would be sufficient to Correlate together the Date-words for the Cambridge successes for *those years*, and by *Exclusion* we should know the years also in which Oxford won or *vice versa*.—(6) All the facts mentioned in the *foot notes* are indicated in the course of the Correlations and without the possibility of producing any confusion.—(7) As the colors of both Universities are *blue* it is only necessary to memorise the *shades* of blue, as is done below.

☞ Read each Correlation once, analysing the relation between the words of which it is composed, then repeat it backwards and forwards, not reading it, but reviving the impression in your head: when you have done this quickly six times, repeat the extremes together, without the intermediates. In this way carefully memorise the entire list of Date-words, so thoroughly as to make concurrence between them, and be able to think of the Date-words and facts (cholera, etc.), without repeating the intermediates, and rapidly to name, forwards or backwards, the years in which Oxford or Cambridge won (by thinking the Date-words and their indication of Oxford or Cambridge), so as to recite the series thus: 1829, Oxford; 1831, Cholera; 1835, Challenge; 1836, Cambridge; 1839, Cambridge; 1840, Cambridge; 1841, Cambridge; 1842, Oxford, or *vice versa*, etc., etc.; then recite the entire series both ways at least twenty times from memory. And afterwards recite the series before your friends, both forwards and backwards, and let them also examine you on the lesson in any way to test your memory.

COLORS—Boat race..boat..blue sea..BLUE
OXFORD..ox..heavy..heavy clouds..DARK.,dark coins,.pence..“d”,.*add “d”*
CAMBRIDGE..bridge..arch..spring..LIGHT.

RACE DAY— Racing boat..sliding seat..sat..SATURDAY*
UNIVERSITY— Universe..orb. motion..speed..Race—BOAT RACE—
1829. NEW BOAt— Beau..maid—
[1831.] DEAF MAID— Dress..collar— CHOLERA†
—— ..death..black death..blackmail—
[1835.] A TOO HEAVY MAIL—Armor..champion— CHALLENGE‡
..duel..fire—
1836. MATCH— Wedding..tour—

---

* Out of thirty-six races over the Putney and Mortlake course, all but nine were rowed on a Saturday. † Not rowed owing to prevalence of cholera.
‡ The challenge of 1834 still unaccepted.

1839. MAP— Route..course—
1840. RACE— Track—
1841. ROAD— Carriage drive..circular drive—
1842. AROUNd— Turning round..dizzy—
1845. REEL— Stagger..mortal wound..MORTLAKE *..Killarney..
1846. IRISH. Linen..drapers..outfitters— OUTRIGGERS †
— ..oar..blade..knife..cut..strings—
1849. HARP— Rapid fingering—
1849. RAPId— Flight..bird .FOUL ‡..waterfowl..landfowl—
1852. LANd— Landlord—
1854. LAIRd— Country seat—
1856. LODGE— House..door..lock—
1857. LOCKEt— Chain..cable. ship..keel— KEELLESS**
—— ..lesson..lesson book—
1858. LEAF— Paper..folding..overlapping—
1859. LAPPEt— Tippet..tip up..sink— SANE ||
—— ..rose..stalk .stilts..Stilton—
1860. CHEESE— Bait..trap..entrapped—
1861. CHEATEd— Crocodile tears..*wee*P ¶..sackcloth and ashes—
1869. ASHPIt— Cinders..coal—
1870. GAS— Escaped—
1871. CAUGHT— Taken..receipts—
1872. GAIN— Money..registered letter..envelope—
1873. GUM— Stick..slip..slide— SLIDING SEATS §§
—— ..sliding rule..ivory rule..tusk—
1874. GORE— Blood..bloodshed—
1875. GUILt— Murder..wound—
1876. GASH— Scar..car—
1877. TO HAVE A GIG..Two wheels..equal motion..equal..DEAD HEAT††
—— ..tie..knot..knotty..crabbed— CRAB††
—— ..teeth on edge..mouth..gift horse—
1778. GIFt— Bequest..question. open—
1879. GAPE— Make faces—
1880. FACEt— Moon-set..MONDAY ‡‡..mouldy—
1881. ECETId— Stench..faint—
1882. FEINt— Combatant..hero—
1883. FAMEd— Glory..bright—
1884. FAIR— Fine..sunshine..moonlight..moon— MONDAY ‡‡‡
—— ..second day.."the waters" ¶¶—
1885. FLUID— Flowing Stream—
1886. FISH.

---

* First race over the Putney and Mortlake course.
† First race rowed in outriggers. ‡ In this Race there was a "Foul"—that is, a collision between the Boats. || First Race in the present syle of Boats without keels. § The Cambridge Boat sank. ¶ Oxford won for nine years. ** Sliding Seats used for the first time, †† The Race was a Dead Heat. The Oxford bow man caught a crab, and sprang his oar when leading, ‡‡ Rowed on

HOW TO MEMORISE THE RATIO OF CIRCUMFERENCE TO DIAMETER BY CORRELATIONS.

If the pupil did not learn the seventy-one Sentences below when he studied Supplement to First Lesson, let him give special attention to this Exercise, as it is a very valuable one. When you have properly gone through it, and thoroughly mastered it, so as to be able rapidly, without hesitation or stumbling, to repeat the first 149 figures of the "Ratio" to your friends, much will have been accomplished towards general strengthening of your memory, cure of Mind-wandering, and promotion of Self-confidence. And, with a little perseverance and exercise of the brains, any schoolboy can master so much of this Exercise. But, besides this general improvement of valuable faculties, the pupil will have learned how to commit to memory difficult poetry, prose, conjugations, declensions, mathematical formulæ, etc., by Correlations. If you want to know what the "Ratio" means, look to page 76 of this lesson; all you have to do at present is to learn fifteen of the following sentences, and by their aid say the 149 figures which these sentences represent, and which you have already written down in an exercise on your Figure-Alphabet Lesson.

Every pupil must learn at least fifteen of the following sentences by the aid of Correlations, if he did not learn them by Interrogative Analysis in Supplement to First Lesson, and then *think* the words in the fifteen sentences, and *say* the 149 figures which the words in those sentences represent.

To try to learn any of the figures by repetition is *not* an exercise in this System.

To recite the entire series of 708 figures of this Ratio, in the exact order, is a feat quite impracticable to one with unassisted Natural Memory. To my pupils the feat is not a difficult one.

The following sentences contain the entire series of 708 figgures translated in accordance with the Figure Alphabet in the Supplement to the First Lesson:—

---

a Monday because of fog on Saturday. The first race postponed,

‖‖ Rowed on Monday, owing to Prince Leopold's Funeral taking place on Saturday.

§§ See Genesis i. 7.

Mother Day will buy any shawl.
My love, pick up my new muff.
A Russian jeer may move a woman.
Cables enough for Utopia.
Get a cheap ham pie by my cooley.
The slave knows a bigger ape.
I rarely hop on my sick foot.
Cheer a sage in a fashion safe.
A baby fish now views my wharf.
Annually Mary Ann did kiss a jay.
A cabby found a rough savage.
A low dumb knave knew a message showy.
Argus up my fire rushes.
A bee will lose life in enmity.
A canal may well appear swift.
Never have tidy Dick early.
Has no fear to see a new ghost.
A beam fallen at dizzy Lulu.
We will be a sure arch in a new pier.
Feeble are poems home-fed.
A butcher ran off feet soppy.
A college shall buy my mirror.
Shoot in a fury, ugly Sheriff.
Naomi may give Jack half my tea.
Shall we now cut Annie's topaz.
Peter will shear a village hedge.
Upon my ridges moor a fish.
To soar lower may nudge a Jury.
Find my map, my Chiswick.
Now choose anew our better Eden.
Coming near love kisses.
Ji-Ji has jammed a whole leaf off.
Take rough, fat, lamb-soup.
A nice patch in a funny panel.
Raise bad cattle, major.
A magic fop knew a well opossum.
Joses taught him my sole hymn.
A sailor if vain has a rich joy.
You allow no time for authorship.
Let a pert lad teach us.
A bear may muzzle a gun-case.

My shallow cool pulp-tub.
A lamb's pint of shady dew.
Come off top, my newish ditty.
A cup may dazzle at a haughty hovel.
Refuse queer, rich, new muck.
Baby Jenny wooing her pale cheek.
Melt half a flaky lining.
Any roof bought in New Cobham.
Heave it off, my sooty deep robe.
A tiny hoop of mamma shook a mummy.
China warriors usually weigh each a share.
A missive chosen at my ball.
Stitches pin our ruffs.
Going now amiss by our machine.
Full looms push chains,
No quail will shape my big pie.
A heavy ship will soon annoy a new rock.
Her puppy shone as a choice care
Bacchus may swear at any match.
A shy heavy wife shut a bible to-day.
Suasive weapons win him fame.
Cuckoos untamed are touchy.
We buried Dobson by five.
You love Annie Laurie. you wretch of a Doge.
He may pick up pipes, Rachel.
Picus is safe to accuse us,
No Pasha may deny my awaking him.
Folk may run his ferret home.
Escape it early to-day, if you may.
Paphia's legacy pay off wholly.

1. You cannot wish to recite the Ratio of the Circumference to the Diameter without *first* thinking of the word *Ratio.* Correlate Ratio as the BEST KNOWN, to the word *Mother* the first word in the first sentence, thus:—

RATIO..Relation..Dearest relation..Mother.

And memorise the Correlation. You do not memorise it by *reading* it over, but by repeating it from memory forward and backward several times, always concluding by recapitulating the two *extremes*: thus, Ratio..Mother, Mother..Ratio.

Next memorise the first sentence by Synthesis, for you must

see at once that Analysis will not apply to the successive words in a sentence. Hence, MOTHER must be Correlated to DAY [unless you know some Mother Day very well indeed, so that there is a strong Concurrence over the word]:

MOTHER..Lullaby..Sleep..Night..Day.

Whenever you Correlate any part of a sentence, repeat that part so as to re-impress the Correlation on your mind; thus, "Mother Day"—She will do what? "Day" has no analytical connection with "Buy;" so you must Correlate them together—

DAY..Day-book..Buyers.."BUY."

"Mother Day will Buy"—Buy what?

"BUY"..Cash..Cashmere.."SHAWL."

"Mother Day will buy any Shawl."

(*a*) To connect the first sentences with the second, Correlate the last prominent word in the first to the first prominent word in the second, thus:

SHAWL.. Warmth..Affection LOVE.

Proceed in a similar way with the other sentences.

2. LOVE .Lovers' quarrels.."Picking a quarrel"..PICK UP.. upstart..parvenu..NEW..old..OLD age..Muffled voice..MUFF

(*b*) MUFF.. Fur RUSSIAN.

3. RUSSIAN..Sledge..Horse.."Gee"..JEER..Taunt..Excite.. Stir..MOVE..Motion..Emotional..Tender-hearted..Womanly ..WOMAN.

(*c*) WOMAN.. Thimble..Rig..Rigging..Ropes..CABLES.

4. CABLES..Strong..Sufficiently strong..ENOUGH.."More than enough"..Sir Thomas More..UTOPIA.

(*d*) UTOPIA.. Dreamland..Bed..Getting up..GET.

5. GET..Get pennv..Penny Cake..CHEAP..Cheapside..Coffee-house..HAM PIE..Hot mutton pie..Hot..Cool..COOLEY.

(*e*) COOLEY Negro ..Slave.

6. SLAVE ."Greek Slave"..Knows Greek..KNOWS .Letters.. Capital letters..Big..BIGGER .Smaller..Small boy..Copy book..Imitate..APE.

(*f*) APE.. Trick..Freak..Frequently ..RARELY.

7. RARELY..Seldom..Sell..Licence..Beer..HOP..Pole..Mast.. Ship..Sea-sickness..SICK..Feeble..Lame..Lame foot..FOOT.

(*g*) FOOT.. Ball..Gaiety ..CHEER.

8. CHEER ..Christmas ..Goose..Seasoning..SAGE ..Wisdom Folly..FASHION..Shun..Danger..Safety..SAFE.

(*h*) SAFE.. Sound..Noise..Crying ..BABY.

9. BABY. Bassinet..Net..FISH.. Sunfish . Sunday.. To-day.. NOW..Present time..Men of the Time..Biographical sketches.. Sketches..VIEWS..Marine views..Land..Landing..WHARF.
(*i*) WHARF..Goods..Accounts..Half-yearly..ANNUALLY.

10. ANNUALLY..Ann..MARY ANN..Merry..Xmas..Mistletoe ..Kissing..DID KISS..Steal a Kiss..Theft..Jail..JAY.
(*k*) JAY.. Blue..Fly..Cab CABBY.

11. CABBY. Fair..Cattle..Sheep.."Lost"..FOUND.."Crier".. Scream..Rough Usage..ROUGH..Unpolished..Uncivilized.. SAVAGE.
(*l*) SAVAGE.. Wild beast..Roar..Bellow ..LOW.

12. LOW..Low voice.. Voiceless.. DUMB..Dummy.. Cards. KNAVE..Nave.. Church.. Prophet..KNEW.. News..Paper Note..MESSAGE..Proclamation..Bill..Showbill..SHOWY.
(*m*) SHOWY.. Show.."Show cause"..Argue..ARGUS.

13. ARGUS..Wakeful..Early up..UP..Sweep..Chimney..Grate ..FIRE..Sparks..Fly up..RUSHES.
(*n*) RUSHES.. Rocket..Whiz..Buz BEE.

14. BEE.."Busy"..Willing..WILL..Temper..Tempest.. LOSE LIFE IN..Death..Duel..ENMITY.
(*o*) ENMITY.. Enemy..Trench ..CANAL.

15. CANAL..Can..MAY..April..April Showers..Water..WELL.. Spring..Rise up..Apparition..APPEAR..Look..Glance.. SWIFT.
(*p*) SWIFT.. Current..To-day..Now NEVER.

In this manner memorise all the sentences from one to fifteen; and, when that is done *thoroughly*,

Correlate—(*a*) (*b*) etc.—the Suggestive word at the end of one sentence to the Suggestive Word at the beginning of the next sentence, so that you can recite the entire fifteen sentences in the exact order *rapidly*.

When you can do this with ease and certainty, instead of repeating the sentences, repeat aloud the figures which the sentences can be translated into, and you will thus know and be able to recite the RATIO of the CIRCUMFERENCE to the DIAMETER, expressed by the integer three and 148 decimals. After a little practice you can say them *backwards*.

☞When you can recite from Memory the entire 149 figures in the exact order and without mistake, you can hand *the figures* to any acquaintance and let him hear you recite them!*

Do this to as many persons as you can get the opportunity. No exercise is better than this, either for the Memory, or concentration, or confidence.

You will find it good practice to learn the other fifty-six sentences by your own Correlations, but you need not put off learning your next lesson until you have finished the memorising of these.

It will not be difficult to learn all the seventy-one sentences and to practice thinking through them and saying the figures. Doing this before other people, will cause amusement and astonishment, and will be an excellent exercise for cure of discontinuity and nervousness.

☞ Let me once more enjoin it upon the student to memorise at least the fifteen sentences, exactly as I have directed, by repeating the parts correlated together each time, as I pointed out in the case of "Mother Day will buy any Shawl." Let him memorise my Correlations, if he cannot make any. But, if he can, it is much better for him to make and memorise his own. Let him remember wherever his natural memory fails, to CORRELATE. In learning Conjugations, Declensions, Poetry, etc., etc., a pupil must *principally* rely upon the *increased memory power* which this System has given him, but, if in any case that fails, he must Correlate. Thus, a student, in learning the conjugation of the French Verb *Avoir*, could never remember what followed *Ils* in the third person plural of the Passe Defini, i.e., *eurent*. I told him to Correlate them and memorise the Correlations, thus:—

ILS..Eels..Eel-pot..Ewer..EURENT.

Similarly, he would Correlate the principal parts of irregular Verbs, etc., etc.

It is often important to know the relation between a circle and its diameter, and to ascertain this, Euler constructed the following formula:—

$$\frac{\pi}{4} = 4 \text{ tangent } {}^{1}\frac{1}{5} - \text{tan.} - {}^{1}\frac{1}{70} + \text{tan.} - {}^{1}\frac{1}{99}$$

* The figures are found in Part VI. p. 22.

This, translated into popular language, would be as follows:—

π divided by four is equal to four times the inverse tangent of one-fifth, minus the inverse tangent of one-seventieth, plus the inverse tangent of one-ninety-ninth.

The Correlation of the above is as follows:—

π ..Pie..Carved..DIVIDED..Half..Quarter..Fourth..FOUR ..Square..Equal Sides..EQUAL..Multiples of Equals..Twice as great..Three times..FOUR TIMES..Times..Leading Article.. Prose..Verse .INVERSE..Inverted Order..Rank..Gentleman.. Gent..TANGENT..Tan..Hide..Drum-head..Drum..Fife..ONE-FIFTH..Less than one..Less..MINUS..Mine..Descent..Ascent.. Reverse of Descent..Reverse..Inverse..INVERSE TANGENT.. Circle..Eternity..Time..Man's life..Three-score-and-ten..Seventy ..ONE-SEVENTIETH..Fraction..Division..Addition..PLUS.. Surplus..Too many..Many words..Conversation..Converse..IN-VERSE..TANGENT..Tangible..Evi-dence..Law..General rule ..''Ninety-nine times out of a hundred'' ONE-NINETY-NINTH.

Similarly, he would translate, and if his memory and attention are still weak, he would correlate and memorise any other mathematical formula, sentence, or proposition, the rule being to Correlate the Grammatical Subject to the Verb, and the Verb to the Predicate, and as many other words as the pupil finds to be necessary. Of course he can often memorise a sentence by a few repetitions, but *he will soon forget it!* What he learns by memorised Correlations he will never forget. And, after a little practice, he can memorise a whole page by memorised correlations in half the time he could possibly memorise a fourth of a page by *rote.*

Dr. William Rutherford, F. R. A. S., of the Royal Military Academy, Woolwich, founded upon Euler's formula, a computation of the Ratio of the circumference of a circle to its diameter. This—the diameter being 1—was calculated to 208 places of decimals. It appeared in the "Philosophical Transactions," Part II., for 1841. It was found that the last fifty-six figures of the 208 were incorrect. In 1851, Dr. Rutherford corrected the error and continued the calculation to 350 decimals; and in March and April, 1853, Mr. William Shanks of Houghton-le-Spring, Durham, founded on Machin's formula a calculation of the ratio carried on to 607 decimals. He published his calculations and their results in 1853, in a book entitled "Contributions to Mathematics." Mr. John Morgan having found some errors, Mr. Shanks corrected them and carried

on the ratio to 707 decimals, in which form it was presented to the Royal Society in 1873, and is given (in figure-letters) on page 88.

MEMORISING PROSE AND POETRY.

First Stage For Weak Memories—The Analytical-Synthetic Method.

[An enumeration of *all* the *propositions* to which a sentence is reducible, supplemented by memorised Correlations.]

Second Stage for Developed Memories.—The Interrogative Analysis.

[A two-fold enumeration of *all* the distinct ideas or *thoughts* of a sentence.]

In commiting to memory rules of grammar, definitions in the sciences, etc., learners often make a very grave mistake in trying to merely learn them by heart by endless repetitions. On the contrary, the pupil should first grasp and realise the meaning and significance of what he wishes to have at command by converting Second-hand Knowledge into First-hand Knowledge. The former is what other people tell us. It is hearsay. It is not the result of our own *observation* or *thinking*. If we study Botany, or any facts that are addressed to the senses, we must always convert the second-hand or hearsay knowledge into knowledge at first-hand by having our own *experience* in regard to it. We must *see* and *handle* the flowers, etc., and then we can have knowledge of them at first-hand. So with Chemistry, Anatomy, and other departments of learning where we can have, in regard to the subject-matter, the same kind of experience which the authors of the books have had. Unless we do this, we merely learn by heart without any necessary absorption or assimilation of the ideas or views inculcated. If we read over a sentence, every subsequent re-perusal of it is done without finding any novelty in it, and the inevitable

result is that, in learning it by heart by means of endless repetition, the attention begins to *wander* after the first perusal. Hence, those who learn by heart in the ordinary way become great mind-wanderers. This ruinous result would be avoided if they learn by intellectual absorption, or by converting the second-hand knowledge into first-hand knowledge. This can be done by analysing the sentence, or by reducing its meaning to its lowest terms or simplest form consistent with sense, and then adding on to this primitive form the successive modifiers of the Subject, Verb, and Predicate, so as to restore by Synthesis its original shape, as was exemplified in the First Lesson and its Supplement. This should always be done in the case of unfamilar abstract ideas, and in this way you make them your own. To illustrate: suppose the Student wishes to commit to memory Blackstone's definition of Municipal Law: "Municipal law is a rule of civil conduct prescribed by the supreme power in a State commanding what is right and prohibiting what is wrong." Suppose the Student has *carefully read over* his exposition of the different parts of this definition, and that he *understands* them. After this, let him try this Method as stated above. He first says—(1) Municipal law is a rule. (2) Municipal law is a rule *about right and wrong.* (3) Municipal law is a rule *commanding what is right* and *prohibiting what is wrong.* (4) Municipal law is a rule of *civil conduct* commanding what is right and prohibiting what is wrong. (5) Municipal law is a rule of civil conduct *prescribed,* commanding what is right and prohibiting what is wrong. (6) Municicpal law is a rule of civil conduct prescribed by the *supreme power of a State* commanding what is right and prohibiting what is wrong. In this way his attention is enchained and interested; and, proceeding from the simple to the complex by successive additions, the mind has time to assimilate the ideas and an intellectual growth is the result, and the attention is strengthened and the memory most vividly impressed, and he will *retain* the comprehension of the definition as long as he lives. *If his memory and attention are both weak,* he may have to repeat the recital several times from memory [not by reading it over and over again], and he should then consolidate the definition by memorised Correlations, and similarly in other cases, he finally succeeds in making Blackstone's idea permanently his own. Again, a pupil sends me the following definition of the First Law of Motion, taken from a recent work: "A body in a condition of relative rest continues in that state until some force acts upon it."

Before seeking to understand the meaning of this sentence he must accquire a clear idea of the difference between absolute and relative rest. Then he proceeds—(1) Rest continues until some force acts upon it. (2) *Relative* rest continues until some force acts upon it. (3) *A body* at relative rest continues until some force acts upon it. (4) A body at relative rest continues *in that state* until some force acts upon it. (5) A body *in a condition* of relative rest continues in that state until some force acts upon it. Again, take the sentence "Mother Day will buy any shawl." You proceed thus—(1)Mother buys a shawl. (2) Mother buys *any* shawl. (3. Mother *will* buy any shawl. (4) Mother *Day* will buy any shawl Again, take the sentence—"The active principle of the stomach is a hydrolytic ferment named pepsin." Presuming that the pupil has carefully ascertained the exact meaning of the words so that he knows precisely what the sentence means, he then goes on to fully assimilate that meaning thus: (1) The principle is a ferment. (2) The principle is a ferment *named pepsin.* (3) The *active* principle is a ferment named pepsin. (4) The active principle *of the stomach* is a ferment named pepsin. (5) The active principle of the stomach is a *hydrolytic* ferment named pepsin. In a similar manner the pupil will proceed with any other sentence containing ideas that are unfamiliar to him or a sentence containing familiar ideas, but in an unfamiliar form; and let him note that, if only one or more points are new to him, he should manage to bring that in early in reconstructing the sentence, so as to have the benefit of the renewals of that idea as many times as possible in connection with what was before familiar. Suppose in the last sentence the idea *new* to him was that the ferment was *hydrolytic,* then he might proceed thus: (1) The principle is a ferment. (2) The principle is a *hydrolytic* ferment. (3) The principle is a hydrolytic ferment *named pepsin.* (4) The principle *of the stomach* is a hydrolytic ferment named pepsin. (5) The *active* principle of the stomach is a hydrolytic ferment named pepsin.

Take the sentence "Any work that deserves thorough study, deserves the labor of making an Abstract; without which, indeed, the study is not thorough." (1) The study is thorough. (2) The study is *not* thorough. (3) *Without which, indeed,* the study is not thorough. (4) *Any work deserves the labor of making an Abstract;* without which, indeed, the study is not thorough. (5) Any work *that deserves thorough study,* deserves the labor of making an Abstract; without which, indeed, the study is not thorough. Again,

"Wise men ne'er sit and wail their loss, but cheerly seek how to redress their harms." (1) Wise men sit and wail their loss. (2) Wise men *ne'er* sit and wail their loss. (3) Wise men ne'er sit and wail their loss, *but seek to redress their harms.* (4) Wise men ne'er sit and wail their loss, but seek *how* to redress their harms. (5) Wise men ne'er sit and wail their loss, but *cheerly* seek how to redress their harms. Again, "Sweet are the uses of Adversity, which, like the toad, ugly and venomous, wears yet a precious jewel in her head." (1) Sweet are the uses of Adversity. (2) Sweet are the uses of Adversity, *which wears a jewel.* (3) Sweet are the uses of Adversity, which wears a jewel *in her head.* (4) Sweet are the uses of Adversity, which, *like a toad,* wears a jewel in her head. (5) Sweet are the uses of Adversity, which, like a toad, *ugly and venomous,* wears a jewel in her head. (6) Sweet are the uses of Adversity, which, like a toad, ugly and venomous, wears *yet* a jewel in her head, (7) Sweet are the uses of Adversity, which, like a toad, ugly and venomous, wears yet a *precious* jewel in her head.

INTERROGATIVE ANALYSIS.

An incomparable mode of securing the *comprehension* and retention of a sentence, is to analyse its successive parts by an exhaustive series of *questions and answers.* In this way, the pupil transforms the Second-Hand Knowledge into First-Hand Knowledge. When his memory and attention have been thoroughly developed and strengthened by having memorised a good many sentences, say from 100 to 200, by Interrogative Analysis, he will thereafter find it to be the most rapid and fascinating mode of *learning by heart.* In all respects, it is unlike learning by *rote.* In learning by rote, if the pupil by accident really does absorb the meaning of a sentence, he attempts to do it by dealing with it at "one fell swoop;" but in using the method of Interrogative Analysis the pupil must constantly *think. To ask questions,* he must *study* the meaning and purport of the sentence, and to frame his answers he must continue his scrutiny of the sentence with sleepless vigilance. Every *separate thought* in it is doubly grappled with—first in the question and next in the answer—and thus each idea is separately considered *twice* in relation to all the other parts of the sentence; and by recalling the *entire sentence* each time he answers a question, and by emphasising the special part that constitutes the reply [in print or writing by *italicising* it], he fixes permanently in mind not only all the ideas of the sentence but also its *exact verbal*

form. Let the pupil most *carefully* study the application of this Method to the sentence lately dealt with by the Analytico-Synthetic Method, to wit—"The active principle of the stomach is a hydrolytic ferment named pepsin."

(1) What is the *active principle* of the stomach?—"The active principle of the stomach is a *hydrolytic ferment* named pepsin." (2) What is the *character* of the *ferment* which constitutes the active principle of the stomach?—"The active principle of the stomach is a *hydrolytic* ferment named pepsin." (3) What is the *nature* of that *watery substance* of the stomach which constitutes its active principle?—"The active principle of the stomach is a hydrolytic *ferment* named pepsin." (4) Of what organ in the human body is the hydrolytic ferment the active principle?—"The active principle of the *stomach* is a hydrolytic ferment named pepsin." (5) What is the *name* of the hydrolytic ferment in the stomach which constitutes its active principle?—"The active principle of the stomach is a hydrolytic ferment named *pepsin.*" (6) What is the *character* of that principle of the stomach which is known as the hydrolytic ferment named pepsin?—"The *active* principle of the stomach is a hydrolytic ferment named pepsin." (7) What *factor* in the operations of the stomach does the hydrolytic ferment named pepsin constitute?—"The active *principle* of the stomach is a hydrolytic ferment named pepsin."

As an example for the application of Interrogative Analysis to a long passage, I have selected Mr. G. R. Sims' skit on the London weather of the summer of 1886.—

THE BAROMETER.—By a Lunatic Laureate.

I bought a barometer last July
To foretell the wet and foretell the dry,
And now I reside in my lonely hall
And watch the mercury rise and fall.
It will fall to "Stormy" and rise to "Wet"
And down to "Gales" I have known it to get,
But never one day since last July
Has it stood at "Fair" or at "Fine" or "Dry."

I have watched my barometer day and night,
But it won't go up to the wished-for height.
I tap at the glass, and I shake the stand,
And I twiddle away at the index hand;
I give it a bang in an angry pet,
But still the mercury sticks at "Wet;"

Then I tear my hair and I rave and cry,
"You beast! but I'll make you point to 'Dry.' "

I have lighted a fire around its base,
I've turpentine-plastered its gloomy face;
And leeches I've put on its blistered back,
And I've given it many a sounding whack.
It has gone to "Stormy," "Unsettled," "Snow,"
But to anything fair it declines to go;
In vain are the thousand tricks I try—
That blessed barometer won't say "Dry."

I have smashed the thing into fragments small,
And the mercury's running about the hall;
And the feet of the people passing by
Are pierced with the pieces of glass that lie;
And the elegant case of the instrument
Over the wall of the garden went.
I'll no barometer own, not I,
That all the summer won't point to "Dry."

Who bought a barometer last July?—*I* bought a barometer last July." What was my action in regard to a barometer last July?—"I *bought* a barometer last July," What did I buy last July?—"I bought a *barometer* last July." When did I buy a barometer?—"I bought a barometer *last July.* For what purpose did I buy the barometer last July?—"*To foretell the wet and foretell the dry.*" To foretell what did I buy that barometer?—"To foretell the *wet* and foretell the *dry.*" Is there any contrast between the objects or events to be foretold?—"To foretell the *wet* and foretell the *dry.*" Now recapitulate from memory—

I bought a barometer last July
To foretell the wet and foretell the dry.

But what am I doing *now?*—"And *now* I reside in my lonely hall." Who now resides in my lonely hall?—"And now *I* reside in my lonely hall." What am I now doing in my lonely hall?—"And now I *reside* in my lonely hall." Where do I now reside?—"And now I reside in my *lonely hall.*" What kind of a hall is that in which I now reside?—"And now I reside in my *lonely hall.*" What lonely place is that in which I now reside?—"And now I reside in my lonely *hall.*" What else am I now doing in my lonely hall?—"*And watch the mercury rise and fall.*" And how is my attention engaged?—"And *watch* the mercury rise and fall." What am I watching?—"And watch the *mercury* rise and fall." What does the mercury do?—"And watch the mercury *rise* and *fall.*" Is there

any dissimilarity in the movements of the mercury?—"And watch the mercury *rise* and *fall.*" Now recapitulate from memory—

I bought a barometer last July
To foretell the wet and foretell the dry,
And now I reside in my lonely hall
And watch the mercury rise and fall.

To what places will the mercury go?—"It will fall to '*Stormy*' and rise to '*Wet.*'" What will fall to "Stormy" and rise to "Wet?"—"*It* will fall to 'Stormy' and rise to 'Wet.'" Is the action of the mercury different in the two cases?—"It will *fall* to 'Stormy' and *rise* to 'Wet.'" If it rises to "Wet," will it then descend to some other place?—"And *down* to 'Gales' I have known it to get." To what place will the mercury descend?—"And down to '*Gales*' I have known it to get." And what have I known about the movement of the mercury?—"And down to 'Gales' I have known it to *get.*" Now recapitulate—

I bought a barometer last July
To foretell the wet and foretell the dry,
And now I reside in my lonely hall
And watch the mercury rise and fall.
It will fall to "Stormy" and rise to "Wet."
And down to "Gales" I have known it to get.

How many times during one day since last July has the mercury stood at "Fair" or at "Fine" or "Dry?"—But *never* one day since last July has it stood at 'Fair' or at 'Fine' or 'Dry.'" For how long did the mercury not stand at "Fair" or at "Fine" or "Dry" since last July?—"But never *one day* since last July has it stood at 'Fair' or at 'Fine' or 'Dry.'" Since when has the mercury never stood for one day at "Fair" or at "Fine" or "Dry?"—"But never one day since *last July* has it stood at 'Fair' or at 'Fine' or 'Dry.'" How has the mercury never been for one day since last July relative to "Fair" or "Fine" or "Dry?"—,,But never one day since last July *has it stood* at 'Fair' or at 'Fine' or 'Dry.'" In which one of three positions has the mercury never stood for one day since last July?—"But never one day since last July has it stood at '*Fair*' or at '*Fine*' or '*Dry.*'" The transition from one verse to the next is easily made. For instance: How do I *know* that the barometer has never for one day since last July stood at "Fair" or at "Fine" or "Dry?" Answer: [Because] "*I have watched my barometer day and night.*" *Who* has watched my barometer "day

and night?" "*I* have watched my barometer day and night." How have I *busied* myself day and night?—"I *have watched* my barometer day and night." What have I watched day and night?—"I have watched *my barometer* day and night!!" During what times have I watched my barometer?—"I have watched my barometer *day and night.*" Do I realise my hopes in regard to the barometer rising?—"*But it won't go up to the wished-for height.*" What is it that won't go up to the wished-for height? —"But *it* (the mercury) won't go up the wished-for height." Where will it not go?—"But it won't *go up* to the wished-for height." Is the height to which it will not go a matter of desire or aversion?—"But it won't go up to the *wished-for* height." To what position will it not go?—"But it won't go up to the wished-for *height.*" In my disappointment what do I do?—"*I tap at the glass* and I *shake the stand.*" *Who* taps at the glass and shakes the stand?—"*I* tap at the glass and *I* shake the stand." What is it I tap at and what do I shake?—"I tap at the *glass* and I shake the *stand.*" What do I do to the glass and what to the stand?—"I *tap* at the glass and I *shake* the stand. "Do I play with the index hand in a light and tremulous manner?—"And I *twiddle away* at the index hand." At what do I twiddle away?—"And I twiddle away at the *index hand.*" Not confining myself to the hand of the barometer, but thinking of all its intractabilities, do I get excited?—"I give it a bang in an angry *pet.*" To what do I give a bang?—"I give *it* a bang in an angry pet." What do I give it?—"I give it a *bang* in an angry pet." In what mood do I give it a bang?—"I give it a bang in an *angry pet.*" In what kind of a fit of peevishness do I give it a bang?—"I give it a bang in an *angry pet.*" Does this bang make the mercury move up?—"*But still the mercury sticks at 'Wet.'*" Does the mercury *now* stick at "Wet?"—"But *still* the mercury sticks at 'Wet.'" At what place does the mercury stick?—"But still the mercury sticks at '*Wet.*'" How is the mercury held at "Wet?"—"But still the mercury *sticks* at 'Wet.'" After all these humiliating defeats, do I become frantic?—"Then *I tear my hair* and I rave and cry, 'You beast! but I'll make you point to 'Dry!'" How do I exhibit my rage?—"Then I tear my hair, *and I rave and cry* 'You beast! but I'll make you point to 'Dry!'" What vocal exclamation ensues?—"Then I tear my hair, and I rave and *cry 'You beast! but I'll make you point to 'Dry!'*" Do I personify the barometer, and if so, what term do I apply to it?—"Then I tear my hair and I rave and cry '*You beast!* but I'll make you point to 'Dry!'" Am I still

resolved to succeed?—"Then I tear my hair and I rave and cry 'You beast! *but I'll make you* point to 'Dry!'" To what point am I determined to make it go?—"Then I tear my hair and I rave and cry 'You beast! but I'll make you point to '*Dry!*'" What have I done to carry out my unflinching resolve?—"*I have lighted a fire around its base,* " etc., etc. Similarly deal with the two remaining verses.

Remarks.—Reading over this Analysis merely gives the pupil an idea of the application of the Interrogative Method; but if he makes *his own* Analysis of these verses, or of others, or of a passage of prose, and then at least once or twice per day for *two weeks* recites from *memory*, first his Analysis and immediately after the passage without the Analysis, but exactly as it was printed or written, he will make the method so familiar, that hereafter he can apply it with so much *rapidity and certainty*, that he can usually memorise a passage of prose or poetry by a single painstaking Interrogative perusal. And when a child has learned this System, he should never be allowed to learn anything by mere rote. If he is required at first to *write out* his Analyses of all he learns, he will soon become so enamoured of the Method that he will always use it from choice, and always with the best results, and thus avoid the ruinous habit of Mind-wandering, and at the same time become a prodigy of quick and never-failing acquisition. Mental operations, in a general way, can be reduced to three successive stages: Sensations, Perceptions and Reason. (*a*) SENSATIONS, where impressions reach the brain through the Touch, Taste, Smell, Sight, or Hearing—the last two being the most vivid. As learning by rote is little more than learning *a succession of sights* [written or printed words], or *sounds* [spoken words], there is mainly involved only Sensations, with scarcely any intellectual assimilation of ideas; and the reason that we learn a passage in our own familiar language more easily than we learn a passge of equal length in an unfamliar language is obvious—in the former case the sounds of the words are familiar, and only the succession of them has to be committed to memory; but in the latter case we must memorise not only the unfamiliar sounds, but also the succession of them. Many, when children, have learned passages of Latin and Greek which they translated; in later life they can often repeat the passages, but they cannot translate them! This proves conclusively that when we learn by heart by means of mere repetitions, the mere sensations of sight and sound have alone been permanently impressed on the mind. In learning by rote, the literal words and exact expression are everything and the sense nothing, or next to nothing; but in learning by this Method, the sense is everything, but it is so absorbed and assimilated that the exact expression is necessarily carried with it. (*b*) PERCEPTION, or the Relation among Sensations, is developed by the action of the mind upon the raw material furnished by Sensation. (*c*) REASON, or the Relation among Relations, is a mental action still further removed from

Sensation. Thus we see that where *ideas* or *thoughts* are expressed in a sentence (and no sentence is without them) learning by rote does not absorb them. This method of endless repitition may temporarily memorise the exact form of expression, but it scarcely ever assimilates any of the ideas. But Interrogative Analysis compels the pupil to absorb all the ideas, and thus he receives a vivid First Impression of all the operations of Perception and Reason, in regard to both of which learning by rote gives no first impression at all. Its superiority to rote-learning is obvious from another point of view. Learning by rote requires constant reviews, or the acquisition is lost forever; but after the Memory and Attention have been thoroughly developed, by having made and memorised many Correlations, what is then learned by Interrogative Analysis is permanently retained without review or any more perusals. Again: learning by rote requires a *long time*, and the method promotes mind wandering, but learning by Interrogative Analysis is rapidly done after the first trials and a little preliminary practice, and it fortifies and strengthens both functions of the Attention to a most surprising degree, and after a time the pupil can, with practical instantaneousness, comprehend the most complex and unfamiliar statements, and quickly memorise them.

I have received numerous Testimonials from Actors and Clergymen, stating that this Method had been a revelation to them, for it insured their rapid memorising of their parts or sermons and a clear insight into the meaning of all they learned; from Lawyers, averring that this Method had taught them how to examine witnesses, and draw from them all the pertinent facts they knew, and to arrive at every possible construction of any section of a Statute; from Grammarians, stating that the practice of this Method had taught them to realise the functions of the Parts of speech more clearly than they had ever known them before; from Frivolous People who had never learned anything before, declaring that this Method had taught them to *think*—and from all alike the statement comes: that this Method secures Comprehension and Retention agreeably, no matter what the prose or poetry may be, and in very much less time than those results could be secured by any method that they had ever known before learning this System.

SURPRISING FIGURE MEMORY.

Any man may much astonish his friends if he can say "write down three figures," and then "three more," and so on until ten sets are written down; and then at once repeat the figures, both in threes and singly, backwards and forwards. That you may do when you can quickly turn figures into words together. Always manage that some time shall elapse between writing down the different sets of figures, so that you can translate each set into words and correlate the words together as fast as you make them, and then you can recite the figures without delay! This you can do by asking

different persons to write down a set, etc. Subjoined is a series of twenty figure-words connected by Synthesis and Analysis. Memorise the correlations, and then exercise yourself in thinking the figure-words and saying the figures backwards and forwards.

DAMAGE..hurt..frightened..white..LILIES..flowers..Covent Garden..MART..shop..photographer's shop..CAMERA..camel hair..BALD..SHAVEN....red beard..RUFUS..shot in a wood..hide in a wood..AMBUSH..cocoa tree..chocolate..VANILLA..confections..cooked..dressed..DRESS..ROBED..coronation robes..king..VIKING..TALKING..talk..DIALOGUE..after dinner..FRUIT..sweets..BABY..BOY..clothe..CLOVE..cloven..MITRE..mighty..DEVIL..imp..IMPISH..demon..ANGEL.

136,	550,	341,	734,	951,	682,	480,
396,	825,	140,	491,	877,	177,	157,
841,	999,	758,	314,	185,	396,	265.

136550341734951682480396825140491877177157841999758314185396265.

Now write down thirty other figures, three figures at a time, translate each set into a word or phrase, and then connect by Correlations of your own; memorise, and repeat the figures both ways. This preliminary practice will prepare you to ask your friends to write down ten or even twenty or more sets of three figures each for you to repeat forwards and backwards from memory.

PHARMACEUTICAL PREPARATIONS.

The following examples are intended to show the Pharmaceutical Student how to memorise the preparations of the British Pharmacopœia. The proportion of the active ingredient in the preparation is indicated by a number-word; the nature of the preparation (as powder, tincture, infusion, etc.) to which this word refers, is indicated by the initial letter of the number-word, according to the scheme given below. If the student wishes to memorise merely the proportions of the active ingredients, he will proceed as in the case of the waters, mixtures, decoctions, etc. If he wishes to memorise not only the proportion, but the time taken in making the preparation, he will proceed as in the case of the Infusions. The same model will show him how to memorise additional facts, exceptional cases, etc. If, however, he desires to remember every preparation of a given kind in the Pharmacopœia, he will take as his model the scheme of the Confections. When it

is found how easily these figures can be memorised by this System, and when it is remembered that the only other way in which such facts can be memorised, is by sheer brute force of endless repetition, the Student will be in a position to appreciate the value of this System.

The nature of the preparation is indicated by the initial letter of the number-word, as follows:

Waters	W.	Liquors	L.
Confections ..	K sound.	Ointments	Sh, J or G.
Decoctions	D.	Mixtures	M.
Plasters	Pl.	Pills (bolus)	B.
Tinctures (with rectified Spirit)	T.	Powders	P.
" (with proof Spirit)	St.	Spirits	Sp.
Glycerines	Gl.	Syrups	S.
Infusions	F.	Wines	V.
Enemas	N.	Liniments (rubbed) ..	R.

WATERS—W.

			1 *in*
Dill	..dilatory..lazy..bed..garden..	Weeds	10
Camphor	..camphor pilules..cold..wipe nose..	wipe shoes	960
Caraway	..carry away..rubbish..	Weeds	10
Fennel	..fence..hedge..box-edging..garden..	Weeds	10
Cinnamom	..cinder..fire..water..	Wave	8
Cherry laurel	..cherry tree..timber..sawyer..	Wood-sawyer	$1\frac{1}{4}$
Peppermint, Spearmint	mint..green peas..duck..web feet ..web..	Weave loom	858

			1 *in*
Pimento	..allspice..spliced..married..	Wedded son	$11\frac{1}{2}$
Rose	..white rose..	White	1
Elderflower	.. ..	White	1
Chloroform..	operation ..painful..	Winces	200

DECOCTIONS—D.

Decoctions..		1 *in*
Aloes	..alleys..narrow street..blocked..	Detains 120
Iceland Moss	ice..snow..ball..	Dance 20
Cinchona	..sink..stone..hardware..dough..	Dotage 16
Pomegranate.. etc.	hard stone..date stone..	Dates 10 etc.

PLASTERS—PL.

AMMONIACUM AND MERCURY..amateur..match.. 1 in
plowing match.. Plow a hill 5
BELLADONNA ..belle..beauty.. Plain 2
CALEFACIENS ..warmth..fleece..pure wool Plain wool 25
CANTHARIDES ..Spanish fly..Spain..Malaga..
raisins.. Plum 3
BROWN SOAP ..Pears' soap..Erasmus Wilson..
Play..Will's son 5½
etc. etc,

ENEMAS—N.

Mass..maize..corn..grain.. { Grains in each Enema.
ALOES ..wean..baby... Nurse 40
ASSAFŒTIDA ..devil's dung..Satan..Enemy of
mankind..Enemies 30
SULPHATE OF MAGNESIA..Epsom salts..Epsom..
grand stand..aristocracy..No roughs 480
ruffian..murder..RUFUS (480)..red hair..brunette..
olive brown..OLIVE OIL*
OPIUM ..poison..kill.. Enemies 30
thirty..dirty..wash..water..*Drop* [thirty drops of Tinct. Opii.]
etc. etc.

INFUSIONS.

All Infusions are made with boiling water, except Chiretta and Cusparia, which are made with water at 120°; and Calumba and Quassia, which are made with cold water. The time required to make the infusion is given in minutes.

Infusion..*boiling water*..egg boiler..three minutes *Minutes.*
:
cold water..cold in the back..lumbago.. CALUMBA
: lumber-room..no room..crush..squash..QUASSIA
: { less dense }
ice { thick ice }
:
dense (120°)..dentist..bicuspid.. CUSPARIA
pariah..India..Indian Bitters..CHIRETTA

INFUSIONS—F.

	Strength.	Time.
CHAMOMILE ..camp..drill..	*Fence* 1 in 20..*duel*	15'

*Each Enema contains 1 oz. of olive oil.

ORANGE PEEL..peal..bell wire..wire
fence.. " 1 in 20..*duel* 15'
COMPOUND ORANGE..Blenheim orange..apple
..pine apple..pine..*Firs* 1 " 40..*tall* 15'
BUCHU ..ewe..sheep..goats..
Gruyere cheese..*Fancy* 1 " 20..*cheese* 60'
etc. etc etc.

MIXTURES—M.

		Grs. in 1 oz.
AMMONIACUM	..ammonia..smelling-bottle..lady.. Madam	13
ALMONDS	..almond cake..wedding cake..match. Matches	60
CREASOTE	..sickness..sea sickness..ship.. Mate	1
CHALK	..prepared chalk..face-powder..lady.. Madam	13
COMPOUND IRON	..iron and wood..iron clad..man of war..Man a sail	2.5
GUAIACUM	..ache..headache..dirty head ..matted hair..Matted	11
SCAMMONY	.. ..Money	2
COMPOUND SENNA	..billiousness.. Mopish	96
BRANDY	..Brand's beef..no fat..Greece.. Matapan	192

CONFECTIONS—K or Chard.

OPIUM	..laudanum..toothache.. Carious carious..tooth..molar..grind..*powder*	1 *in* 40
poppy	(powdered opium 1 in 40)	
PEPPER	..cayenne.. Cadiz	" 10
piper		
pips		
HIPS	..hairy seeds..hair Comb	" 3
ROSES	..rosy cheeked..apple.. Core	" 4
wild rose		
bramble		

scramble
:
SCAMMONY ..money-bank..Bangkok..cocks'comb .Comb 1 *in* 3
:
common purgative
:
SENNA ..senna tea..tea-caddy.. Cadet " 11
:
brimstone and
:
SULPHUR ..furious..insult.. "you Coon, sir" "2¼
:
hell fire
:
punishment
:
guilt
:
turpitude
:
TURPENTINE ..Dick Turpin..pistol..rifle.. Corps " 74

POISONS AND ANTIDOTES.

Oil, milk, or any other fatty mucilaginous substances are used to protect the coats of the stomach against the operation of oil of vitriol and other acid and corrosive poisons:—*Acid*..curd..curdled milk..*milk*..butter..melted butter..*oil.*

Soap and Sulphide of Potassium are antidotes against arsenic and other metallic poisons:—*Metallic*..lick..cat-lick..wash..*soap*.. potash-soap..potassium..*sulphide of potassium.*

Narcotic poisons are neutralised by vinegar:—*Narcotics*..clock ticks..time..age..vintage..*vinegar.*

Prussic acid is neutralized by alkalies and freshly precipitated oxide of iron:—*Prussic acid*..sick..lie down..*alkali*..lie on the side..*oxide of iron.*

Wine, brandy, coffee and camphor, are used to rouse those who have taken laudanum or any other preparation of opium:—*Opium*.. opium-eater..intemperate..*brandy*..*wine*..beverage..*coffee*..cough ..cold..camphorated spirit..*camphor.*

Mucilage, camphor and oil. neutralize cantharides:—*Canthar-*

ides..hair-grower..bald..age..*mucilage*.. mew..cat..fur..*camphor*..comfort..ease..smooth..running..*oil.*

Ten drops of ammonia in a glass of sugared water will sober a tipsy man:—*Drunk*..alcohol .volatile spirits..volatile alkali..*ammonia*..to moan..*to sigh* (10 drops)..pathos..sweet tears..*sugared water.*

NOTICE.—It is an achievement, grand in ts results, to master this System in its character as a Device for Memorising any facts whatsoever—but it is a grander achievement to master it as a System of Memory-TRAINING, so that the Natural Memory becomes so strong that it no longer requires the aid of this System as a Device for Memorising. In this case, facts are united in the Memory by an Instantaneous Gordian Knot. To help secure this object, I recommend the pupil, before commencing this lesson to go over all the previous exercises *again*, if he has not already memorised them *thoroughly and in the exact manner* required by my instructions.

PART V.

THE INSTANTANEOUS GORDIAN KNOT.

By Gordian Knot I mean to express the RESULT of this System or Memory-*training*. This result, if my directions are thoroughly attended to, is such a strengthening of the NATURAL MEMORY that facts are held by it as firmly as if tied with theknot of Gordius—held *without* the use of this System as a *device* for memorising. In this lesson I aid the pupil by further exercses to continue his memory-training, and I suggest further methods to help him do this rapidly and usefully.

In answers to EVER-RECURRING QUESTIONS it is stated that this System has been christened by pupils. "Instantaneous Memory" from the RAPIDITY with which whatever has been learned by it is RECALLED. I can communicate in a personal interview, in the space of one hour only, my entire Unique Theory of Physiological Analysis and Synthesis—together with the two grand features of my Original System of Memory-Training, whereby the First Impression is in all cases made most *vivid*, and its subsequent Revival made sure and immediate, by MEMORISING examples of Analysis, and by making and MEMORISING Correlations. After the pupil

has thus learned the complete Theory of this System, he still needs to have a *good deal of practice* to acquire the dexterity in its use which practice alone gives.

Now, suppose a pupil has correlated one "extreme" to "another extreme" and has followed my invariable requirement in *memorising the Correlation*, and he wishes to recall the second "extreme," what takes place? Why, the *moment* he *thinks* of the first "extreme" the second "extreme" *instantly* occurs to mind. There is no delay—no pause—no summoning up of a story, and separating it into parts, and making a vain effort perhaps to find out which was the "other extreme;" no attempt at recalling a mental picture, two-thirds of which has vanished from the memory while the remaining third only serves to put you on a false scent. The *application* of this Method instantaneously *recalls* the fact which the Correlation had cemented to the first extreme. If any hesitation ever occurs, it is sure proof that the *Correlation* was *not memorised* in the *thorough manner* always insisted upon by this System.

There is another result which, after the Lessons are finished, all my faithful pupils will be sure to find out in their future use of the System. I have just adverted to the instantaneous RECALL of any fact properly fixed in the mind by this System. I now allude to the MAKING of the Correlation in the first instance.

I.—The more Correlations the pupil makes, the more easy the making of them insensibly becomes. Ninety-nine persons out of a hundred are satisfied with making them with constantly increasing rapidity as time goes on and experience accumulates. But many prefer to make them slowly and thoughtfully, and they refuse to take any steps to become able to make them rapidly. Such persons acquire the full power of this system, except in the matter of *time.*

But, if they have occasion to make hundreds of thousands of Correlations in a brief period in order to remember great masses of facts, they can, if they follow my directions, save much time.

II.—The careful making of 5000 Correlations does not so much contribute to the practically *instantaneous forging* of the memory-chain as does the *making* and thorough *memorising* of 50.—Nor is this all—

III.—Hitherto, as the pupil has had quite enough to do to acquire the method of making Correlations, I have simply enjoined

the memorising of every one he makes. But the time has come to speak of the proper *manner* of memorising them. The quick recital of the intermediates of every Correlation both ways, whilst learning them by heart, helps to impart the power to *make* new intermediates instantly. Hereafter this should always be done by all who would acquire the full power of this System. *Rapid repeating of memory-intermediates contributes to rapid making of them.* The time spent in attaining the ability of instantly manufacturing memory-intermediates differs in the case of different individuals, according to temperament, and the *painstaking* bestowed upon *always rapidly memorising the Correlations.*

IV. Those who may have found difficulty in making Correlations, can soon overcome this difficulty by making a Correlator of twenty-five words connected by In., Ex. and Con., *every day* for two weeks—*analysing* each and *memorising* it—always connecting the first word in the second-day series to the last word in the first series by analysing, so that in twelve days he has made a Correlator of 300 words constituting an unbroken chain, each word being united to the next either by In., Ex. or Con., and, the whole *memorised*, he will thenceforth be able to make Correlations easily and rapidly.

MEMORY ALMANAC.

Let the pupil memorise the sentences that spell the Saturdays of the months of 1886, and he can adapt them to other years,

When the first Saturday falls on the *first* day of the month, the sentence "Do have dull Nanny Nebo" will apply, except to February when it has only twenty-eight days;* in this latter case, the last word *Nebo* must be left out. †

Does the sentence contain an entreaty?—"*Do* have dull Nanny Nebo." What is the point of the request?—"Do *have* dull Nanny

---

* February has twenty-eight days, except in leap year, which recurs every fourth year, when the number of the year is exactly divisible by four. In the latter case it has twenty nine days.

† When the sentence provides for one Saturday more than there is in the month in question, all the pupil has to do is to disregard the last word, or substitute another sentence, as shown below.

Nebo." What is the intellectual character of Miss Nanny Nebo?—"Do have *dull* Nanny Nebo." What is Miss Nebo's Christian name?—"Do have dull *Nanny* Nebo." What is the surname to which Nanny belongs? "Do have dull Nanny *Nebo.*"

When the first Saturday falls on the *second* of the month, the sentence "Now boy, touch a numb mouse," always applies. [When the second day of February is its first Saturday, the sentence may be "Now, boy, touch Nemo."] When is the request made to touch a numb mouse?—"*Now* boy, touch a numb mouse." Who is requested to touch the mouse?—"Now *boy*, touch a numb mouse." What is the boy requested to do?—"Now boy, *touch* a numb mouse." Are all the functions of the mouse in full activity?—"Now boy, touch a *numb* mouse." What numb animal is the boy requested to touch?—"Now boy, touch a numb *mouse.*"

When the first Saturday is the *third* of the month, this sentence applies—"My days take newer might." [Here the last Saturday is 31st. In September, April, June and November, there are only thirty days. The last word therefore must be disregarded or another sentence taken as:—"My ties deck Norah."] Whose days take newer might?—"*My* days take newer might." Is it my days, months or years that take newer might?—"My *days* take newer might." What is the action of my days in regard to newer might?—My days *take* newer might." Is it more recent or older might that my days take?—"My days take *newer* might." What newer thing do my days take?—"My days take newer *might.*"

When the first Saturday falls on the *fourth* day of the month, the following sentence always applies:—"Hero taught Davy Noel." Who taught Davy Noel?—"*Hero* taught Davy Noel." What was Hero's action in regard to Davy Noel?—Hero *taught* Davy Noel." What was Noel's Christian name?—Hero taught *Davy* Noel." What was the surname of the man Hero taught?—"Hero taught Davy *Noel.*"

When the first Saturday falls on the *fifth* day of the month, the following sentence always expresses all the Saturdays of that month;—"Will Dan daub a niche?" Is any inquiry made here?—"*Will* Dan daub a niche?" In regard to whom is the question asked?—"Will *Dan* daub a niche?" What untidy act in regard to the niche is inquired about?—"Will Dan *daub* a niche?" What is it which is asked if Dan will daub?—"Will Dan daub a *niche*?"

When the first Saturday is the *sixth* day of the month, this sentence always applies:—"A shy dame knows a knock." What is the

character of the dame who knows a knock?—"A *shy* dame knows a knock." Is the shy dame slightly acquainted with or positively sure of the knock? "A shy dame *knows* a knock." What is it the shy dame knows?—"A shy dame knows a *knock*."

When the first Saturday falls on the *seventh* day of the month, all the Saturdays of that month are expressed by the figures which the following sentence represents:—"A hack tore a naughty knave." What tore a naughty knave?—"A *hack* tore a naughty knave." What act did the hack perform upon the naughty knave?—"A hack *tore* a naughty knave." What was the character of the knave?—"A hack tore a *naughty* knave." What naughty person did the hack tear?—"A hack tore a naughty *knave*."

The dates of the first Saturdays in each month in 1886 are expressed, in order, in this sentence:—*No judge may delay my garnisher.*

Let the pupil allow his friends to take an ordinary almanac and question him as to the *day of the week* that *any day in any month* of this year falls on. And in subsequent years he can make his own Memory-Almanac from an ordinary almanac by fixing merely the dates of the Saturdays of each month. For 1887 the following sentence will answer: *They lie low, nay cringe amid loam.* He will find this Memory-Amamac of great use to him if he learns it thoroughly.

There are many other methods of knowing the day of the week any day in the year falls on. This is the most simple and easy, and does not require a quick faculty of arithmetical calculation.

Knowing in this manner the first Saturday, even the non-mathematical mind that knows also the sentences expressing all the Saturdays [and he can easily memorise them by the use of correlations or Interrogative Analysis], can instantly tell on what day of the week any day in the month falls in this or any other year for which he has prepared and learned the Saturday words. As some are accustomed to think of Monday as the 2nd day, and others as Feria 2, it needs less thought to add 2 for Monday than 1, and so it is better that the days fixed by the figure-words be Saturdays rather than Sundays.

Example.—On what day of the week does the 29th of June fall?

Answer.—The last Saturday of June is the 26th [Will Dan daub a *niche.*] Sunday is 27, Monday 28, and *Tuesday* the 29th. Again, on what day of the week does the 15th of December fall?

The Saturdays of December are "Hero *t*aught *Davy Noel.*" The 15th is between the 11th and 18th. The 18th is Saturday, the 17th Friday, the 16th Thursday and the 15th is *Wednesday.*

TO TELL THE DAY OF THE WEEK OF ANY DATE IN THE NINETEENTH CENTURY.

This may be done by mentally going through the following little calculation:

Add together—The quotient of the last two figures of the year divided by 4; the remainder of the last two figures of the year divided by 7; the number of the given date; and an addendum (given below) for the month. The remainder of this result divided by 7 will give the day of the week.

The following Correlations will help to the memorising of this:

Day of week..*day of month*..four weeks in month..*result of division by* 4..four weeks and three days..*remainder of division by* 7..seven..number..*number af date*..date-palms..desert..silent..dumb..*addendum*..add..*add all together*..together..one family.."we are seven"..*divide by* 7..unite..unity..strength..main force..*remainder* is number of day of week.

Addenda for the months—

January..janitor..door..house..hom*e* 3
[January..Jan..Ann[2]lady..lady's proposal..*leap year*]
February..febrifuge..hu*g*e. 6
[February..29th Feb..*leap year*..leap..hee*l*..5.—If there is no remainder when the year is divided by 4, it is leap year.]
March..Foot..*sh*oe..6
April..ape..Darwin..wi*n*..2
May..sunny..*r*ay..4
June..Junius..u*s*..0
July..lie..bed..i*n*n..2
August..gust..howling wind..how*l*.5
September..ember..ashes..woo*d*..1
October..octavo..hymn book..hy*m*n..
November..gnomon..sundial..wat*ch*..6
December..dying year..ad*ieu*..1

Some examples will make the method clear:—

On what day was the 24th May, 1819, the date of the birth of Queen Victoria?

Quotient of 19 by 4=4; remainder of 19 by 7=5; number of the dat =24; addendum for May=4; Total=37, which divided by 7 leaves 2. *Answer*, 2d day, *i. e.*, Monday.

On what day was the 14th April, 1865, the date of the death of Abraham Lincoln?

Quotient of 65 by 4=16; remainder of 65 by 7=2; number of the date=14; addendum for April=2; Total=34, which divided by 7 leaves 6. *Answer*, 6th day, *i. e.*, Friday.

On what day was the 5th May, 1821, the date of the death of Napoleon 1st?

Quotient of 21 by 4=5; remainder of 21 by 7=0; number of the date=5; addendum for May=4; Total=14, which divided by 7

leaves 0. Notice that when there is no remainder, the day is Saturday; therefore, *Answer*= Saturday.

THE HIGHER ANALYSIS AND SYNTHESIS.

1.—The following application of this System is extremely dangerous to all who have not had *thorough* practice in Analysis. Those who have not had such practice should not proceed further, until they have patiently analysed afresh the Presidential, Dough Dodo, and Heptarchy Series, and all my Correlations, as well as all their own; or what is better still, until they have made a Correlator of 500 or 1000 words, analysed it and thoroughly memorised it. It is only in one of these ways that the pupil realises the full power of the relations of In., Ex. and Con. And after this cultivation of the Memory to the quick appreciation of these relations, even very weak ones become vivid to him, *if he make them himself.* Sometimes, in the Higher Analysis and Synthesis, a pupil feels the connection most keenly, and yet it is impossible for him to formulate the designation of what it precisely is.

Before applying the Higher Analysis and Synthesis to historical facts it would be better to master at least one book of history in the manner described in the next lesson. After that, in carrying on historical studies, occasions will frequently occur for the application of In., Ex. and Con. to recorded facts. *

Inclusion embraces cases where the same kind of facts or the same principles were involved, or where different events happened during the same period; or the same figures occur in different dates with regard to somewhat parallel events. For instance, Garibaldi (the Italian), and Skobeleff (the Russian), both great and recklessly patriotic generals (Inclusion), and both favorites in France (Inclusion), died in the same year, 1882 (Concurrence); Longfellow and Rossetti, both English-speaking poets (Inclusion), died in the same year, 1882 (Concurrence).

See also examples, 1, 2, 3, 5, 6, 7, 8, 10, 11.

---

* Similarly, Doctors, Lawyers, Clergymen, etc., can apply these principles to their own special cases.

EXCLUSIONS imply facts from the opposite sides relating to the same events, conspicuously opposite views held by the same man at different periods, or by different men who were noticeably similar in some other respect; or antithesis as to the character or difference in the nationality of different men in whose career, date of birth, or what not, there was something distinctly parallel. What a vivid Exclusion there is here, for instance:—The Patriarch Abraham died 1821 B. C., and Napoleon Bonaparte died 1821 A. D.

See also examples, 2, 3, 4, 6, 7, 11.

CONCURRENCES are found in events that occur on the same date, or nearly so, even if they have not much else in common. Dr. C. Darwin, who advocated Evolution, now popular in every quarter of the globe, and Sir H. Cole, who first advocated International Exhibitions, now popular in every quarter of the globe, were born in the same year, 1809, and died in the same year, 1882—double Concurrence. Many Coincidences are Concurrences. For instance, on Sunday November 21st., 1886 a great meeting, called by agitators claiming to represent "the unemployed," was held in Trafalgar Square, professedly to "stir up" the upper classes to an appreciation of the want by the poor, of work, wages, and food. The collect for that day in the Common Prayer Book commences with the words, "stir up;" the Gospel for the day records the assembling of "a great company," and the asking of the question, "Whence shall we buy bread that all these may eat?" (John vi. 5). The agitators allege that unfairly low wages are paid to match-box makers, seamstresses, and other workers; and in the first evening Lesson occur the words, "I will be a swift witness . . . against those that oppress the hireling in his wages" (Mal. iii. 5).

See examples 1, 3, 4, 5, 6, 7, 8, 9, 11.

As in ordinary Recollective Analysis, so in the Higher Analysis, one case frequently includes two and sometimes all three—In., Ex., and Con. Moreover, when two events are looked at together, there may be Concurrence as to one circumstance, Inclusion as to another, and Exclusion as to a third.

EXAMPLES.

(1) Two renowned mathematicians, Euler and D'Alembert (who both dedicated some of their works to members of reigning families), died in 1783 (*talk of him*). D'Alembert—who died in the year of the treaties of Paris and Versailles (3 Sept. 1783), recog-

nising the independence of the United States of America, at the conclusion of a war in which the *French* had sided with America—was born in 1717 wood-cutting), date of the foundation by the *French* of the city of New Orleans.

The former part of this examples is a specimen of Inclusion, and the latter of Concurrence.

(2) Two illustrious, uncompromising characters (Inclusion), both brilliant essayists (Inclusion), the one a representative of the music of the future, the other of the obsolete polemic of the past (Exclusion), Richard Wagner and Louis Veuillot were born in the same year, 1813, and died in the same year, 1882 (they have time). they have fame. The last point is a double Concurrence

(3) Two foremost harbingers of modern thought (Inclusion), Voltaire and J. J. Rousseau, died in 1778 (I think *of* you)—(Concurrence). Both gained for themselves the reputation of having been the most reckless antagonists of Christianity (Inclusion). And still the one dedicated a church to the service of God, whilst the other in his "Emile" wrote a vindication of Christianity (Exclusion as to each of them, Inclusion as to both of them).

(4) Albrecht Durer (1440-1528), the famous realistic German painter, died in 1528, and Paul Veronese (1528-1588), the great Italian colorist, was born in the same year (oddly enough). Both were painters (Inclusion); one was the greatest of artists in black and white, the other famous for his brilliant coloring (Exclusion). In the same year the one was born and the other died (Concurrence and Exclusion).

(5) Lisbon was ruined by an earthquake in 1755 (hot coal-hole). In that same year (Concurrence) the discovery of the ruins of Pompeii was published to the world, thus reviving the recollection of the overwhelming of that city by a volcano. Both cities were destroyed by subterranean distubances (Inclusion); the ancient event became generally known when the recent one happened (Concurrence).

(6) Galileo, founder of Modern Astronomy, born in 1654 (tall watcher) died in 1642(a teacher won, or the journey), the very same year in which Sir Isaac Newton was born. Galileo's theory was not proved but merely made probable until the existence of the laws of gravitation was established, and it was Newton who discovered gravitation. This is an instance of Inclusion as to the men themselves, of Exclusion and Concurrence as to common date of birth and death.

(7) Two prominent *litterati* (Inclusion), one a Frenchman, the other an Englishman (Exclusion), well known for the pomposity and sonority of their style of writing (Inclusion), were born in the same year, 1709, and died the same year, 1784 (*to gossip, take over*) —a double Concurrence—Lefranc de Pompignan [pompous]—(In. by S.), Johnson.

(8) General Foy, an *orator* and artillery officer, fond of literature, was born the same year (Concurrence), 1775 (*tangle*), as the *orator* (Inclusion), Daniel O'Connell. He died in 1825 (*divine law*), the same year (Concurrence) as Paul-Louis Courier, who was also artillery officer (Inclusion), fond of literature (Inclusion), and moreover, like O'Connell, a violent pamphleteer (Inclusion).

(9) Haydn, the great composer, was born in 1732 (*tongue of men*), and died in 1809 (*the heavy sob*); this date corresponds to that of the birth (Exclusion and Concurrence) of another famous composer (Inclusion), Mendelssohn, who himself died in 1847 (*devouring*), the same year as O'Connell.

(10) End of Augustus's Empire at his death, 14. End of Charlemagne's at his death, 814. End of Napoleon's at his abdication, 1814.

This is simple Inclusion as to the empires, and Inclusion by Sound as to the dates, "14" being in all, and "814" in two of them.

(11) Mary Stuart, for some time Queen of France, born in 1542 (*to learn*)—100 years before the death, at Cologne, of another Mary, Queen of France (Marie de Medicis)—was married to the Dauphin of France (afterwards Francis II.) in 1558 (*dual life*). This same date is that of Elizabeth's accession to the throne. This date again coincides with the death of the Emperor Charles V., and the commencement of the downfall of Spain, England's most powerful rival. Under this same Elizabeth, 1588 (*they leave a few*) the great Catholic invasion was frustrated by the destruction of the Armada, whilst 100 years later, 1688 (*to shave off*), a Protestant invasion (William III's) was invited by the Parliament and welcomed by the people. Bunyan, the great Protestant writer, died that very year.

HOW TO MEMORISE MONTHS AND DAYS AS WELL AS YEARS.

Pupils sometimes ask how months and days, as well as years, can be memorised. They ought to see, from specimens already

given, how to deal with hours and minutes as well, if need be. We here illustrate one method of dealing with months and days. The day of the month on which any king came to the throne, and the length of his reign, may be fixed thus:—For the name of the month take the equivalent figures of the first two consonants, thus:—For January (Jan.) 62, February (Feb.) 89, March (Mar.) 34, April (Apr.) 94, May (m-m) 33, June (n-n) 22, (62 having been already used for January), July (Jul.) 65, August (Gus) 70, September (Sep.) 09, October (Oct.) 71, November (Nov.) 28, December (Dec.) 10. For the day of the month keep always two places, that is, where there is only one figure, prefix a nought: taking (in the case of Henry I.) for 5th, 05. Keep two places, in the same way, for the years of the reign; *e.g.*, in the case of Mary, 06. There will then be no difficuly in distinguishing in the Date-Phrase the year of accession, the month, the day of the month, and the length of the reign. Take the phrase in the case of William the Conqueror: "The wise judge got through any day." You have already memorised the Correlation between William I. (wit) and "the wise judge" (1066), and have only to learn the rest of the phrase, "got"=71=hard c and t=October. "Through"=14, *i. e*, "got through" means "October 14" and William I. dated the commencement of his reign from Oct. 14th, 1066. "Any day"=21, and reminds you that William I, reigned 21 years. In the same way you can extend the other date words or phrases which you have memorised in connection with the English kings. Here are some specimens;—

William I., 1066, Oct. 14—21 yrs....The wise judge got through any day.
William II., 1087, Sep. 26—13 yrs...Deceiving is punished, Amy.
Richard I., 1189, Sep. 3—10 yrs...The day of hope is happy as amity is.
Edward II., 1307, July 8—20 yrs...A damask shawl has often ease
Mary, 1553, July 6—6 yrs. ...A tall elm-hedge less shows age.
Elizabeth, 1558, Nov. 17—45 yrs....Dual life inviting rule.
George I., 1714, Aug. 1.—13 yrs. ...A Doctor walks a set time.
George IV., 1820, Jan. 29—11 yrs...Toughness I shun on a bath day.
Victoria, 1837, June 20th ...Day of Maying known once.

These are awkward sentences, but can be easily learned by the aid of memorised Correlations, or Interrogative Analysis.

ROMAN EMPERORS FROM JULIUS TO CONSTANTINE.

Roman emperors. imperial era. . ear. . drum. . beat. . *knock* (27) . . wound. . swelling . . augment. . AGUSTUS . . gusty. . trim sails. . rigging. . *tar* (14). . sailor. . boatman. . river. . Tiber. . TIBERIUS. . beer. . pint. . *mug* (37). . cup. . cup of flower. . calix. . CALIGULA. . ligature. . bleeding. . blue blood. . aristocrat. . *rat* (41). . cat. . claw. . CLAUDIUS laud. . sing praises. . harp. . *lyre* (54). . musical instrument. . fiddling . . burning. . NERO. . row. . boat. . *ship* (69). . galley. . GALBA. . Albatross. . ancient mariner. . curse. . oath. . OTHO. . Othello. . Iago. . telltale. . VITELLIUS. . us. . we two. . sweethearts. . *kiss* (70). . passion. . VESPASIAN. . vespers. . vestment. . *cope* [79). . coping. . wall. . wall of Jerusalem. . TITUS. . conqueror of the Jews. . conqueror. . *fight* (81) . . brave. . indomitable. . DOMITIAN. . domicile. . house servant. . footman. . *page*. . (96). . leaf. . tender shoots. . tender nerves. . NERVA. . strong nerves. . stout. . *beef* (98). . dinner-waiter. . tray. . TRAJAN. . tragic end. . killing a pig. . *dead hog*. . (117). . pork. . food. . fodder. . hay. . hay drying. . HADRIAN. . Adriatic. . sea. . unpleasant motion. . *to move* (138). . immovable. . chaste St. Anthony. . ANTONINUS PIUS. . pie. . pigeon pie. . shooting. . *to shoot* (161). . target. . mark. . MARCUS AURELIUS. . reliable. . untrustworthy. . *thieves* (180) pirates. . captain . . commodore . . COMMODUS . . commodious. . cramped garret. . *the beam* (193). . sunbeam. . sunstroke. . severe. . SEVERUS. . severe trial. . win your spurs. . *knighted* (211). . knight. . mediæval horsemanship. . caracole. . CARACALLA. . callous. . care for nothing. . *nothing* (217). . naught. . naughty . . punishment. . may cry . . MACRINUS . . Rhine wine . . swallow . . oysters . . (*or*. Lucrine Lake . . oysters) *native* (218). . talk like a native. . gabble. . ELAGABALUS. . gab. . conceited talk. . ask for more. . "*no, no, no*" (222). . knowing. canny. . Scotchman. . Sandy. . ALEXANDER SEVERUS . . Bucephalus. . fine horse. . *animal* (235). . fox . . run to ground. . run him in. . MAXIMIN. . maxim . . wise saw. . sage. . clever. . "*no muff*" (238). . furs. . smartly dressed gaudily dressed . . GORDIAN. . knot. . ten knots an hour. . nearer home. . *nearer* (244). . father. . father of Alexander the Great. . PHILIP . . lover of horses. . harness. . *new rope* (249). . hanging. . drop. . descent. . DECIUS. . decimate. . destroy. . *annihilate* (251). . late. . early . . cock-crow. . cock . . GALLUS. . gall . . vinegar. . crucify. . *nail him* (253) . cruel death. . valley of death. . VALERIAN. . (and cruel death. . gallows. . GALLIENUS. . valueless . . chaff. . *no chaff* (268). . grain. . pick up grain. . fowls. claws . CLAUDIUS). . Claude. . French painter . . French wines. . *negus* (270) . drink. . drunk. reel. . AURELIUS. .

oral..teaching..coaching..*in a coach* (276)..coach..bus..PROBUS .probe..feel for..search..*in vain* (282)..all is vanity..cares of life . CARUS..caress..never leave you..*never* (284)..never say die.. DIOCLETIAN..die..bullet..billet..*message* (306)..bulletins..constant messages..CONSTANTINE.

Let the pupil make his own Correlations for the above.

MEMORISING PROPOSITIONS IN EUCLID.

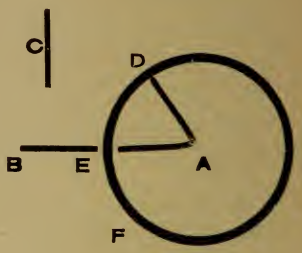
In regard to the Demonstration of Prop. 3 Book I. of Euclid, given below, it must be noted that what I have offered, is done mainly to help the Student to the comprehension of the Proposition, etc. I assume he is studying alone, without a teacher's aid. If he clearly *understands* every link in the chain of Exposition and of the Demonstration, the recollection of them is practically assured. He can then recite the Proof, etc., with the brevity and in the exact language of Euclid if he prefers.

Enunciation.—"From the greater of two given straight lines to cut off a part equal to the less."

Its Memorisation.—Does the Proposition imply that we add to or take away from the greater line?—"*From* the greater of two given straight lines to cut off a part equal to the less." From which of the two lines must we cut off a part?—"From the *greater* of two given straight lines to cut off a part equal to the less." How many given lines are there?—"From the greater of *two* given straight lines to cut off a part equal to the less." Are there any particular lines in question?—"From the greater of two *given* straight lines to cut off a part equal to the less." From the greater of what do we cut off apart?—"From the greater of two given straight *lines* to cut off a part equal to the less." What kind of lines are they from one of which we cut off a part?—"From the greater of two given *straight* lines to cut off a part equal to the less." Given our two straight lines, what do we now proceed to do?—"From the greater of two given straight lines to *cut off* a part equal to the less," What do we cut off from the greater line?—"From the greater of two given straight lines to cut off a *part* equal to the less." What relation does the part we cut off from the greater

bear to the less line?—"From the greater of two given straight lines to cut off a part *equal* to the less." To what is the part we cut off equal?—"From the greater of two given straight lines to cut off a part equal to the *less.*"

Which are the two given straight lines?—"Let AB and C be the two given straight lines of which AB is the greater." Which is the greater of these two given straight lines?—"Let AB and C be the two given straight lines, of which AB is the greater." What is required to be done with regard to these two given straight lines?—"It is required to *cut off* from AB, the greater, a part equal to C, the less."



Construc tion.—"From the point A, draw the straight line AD equal to C." From what point is AD drawn?—"From the point *A*, draw AD equal to C."—What straight line is drawn from A equal to C?—"From the point A, draw the straight line *AD* equal to C." What is the length of AD?—"From the point A, draw the straight line AD *equal* to C." Equal to which straight line is AD?—"From the point A, draw the straight line AD equal to *C.*" How is a straight line drawn from a given point A, and equal to a given line C?—"*From a given point, to draw a straight line equal to a given straight line.*" (Proposition 2.) What further use is made of the point A?—"And from the *centre A*, at the distance AD describe the circle DEF, meeting AB in E." What is the radius of the circle?—"And from the centre A, at the *distance AD*, describe the circle DEF, meeting AB in E." What is described from the centre A and at the distance AD?—"From the centre A, at the distance AD, describe the *circle* DEF, meeting AB in E." Where does the circle cut AB?—"And from the centre A, at the distance AD, describe the circle DEF, meeting AB in *E.*" What is the position of the circle DEF, with regard to AB?—"And from the centre A, at the distance AB, describe the circle DEF, *meeting* AD in E." Can a circle be drawn according to Euclid?—"*Let it be granted that a circle may be described from any centre, at any distance from that centre.*" (Postulate 3.)

Hypothesis.—Then what about the length of the part AE?—

"AE shall be *equal* to C." Is this proved?—"AE *shall be* equal to C."

Proof.—What follows from the fact that A is the centre of the circle DEF?—"Because the point A is the centre of the circle DE F, therefore AE is *equal* to AD." What is equal to AD?—"Because A is the centre of the circle DEF, therefore *AE* is equal to AD." How do we know that lines drawn from the centre of a circle to the circumference are equal?—"A circle is a plane figure contained by one line, which is called the circumference, and is *such, that all straight lines drawn from a certain point within the figure to circumference are equal.*" (Definition 15.) What else is equal to AD?—"But C is equal to AD." How is C equal to AD?—"*From the centre A, draw the straight line AD equal to C.*" (Construction) What two lines then are equal to AD?—"Therefore *AE* and *C* are *each of them* equal to AD." What is the result?—"Therefore *AE is equal to C.*" What is the length of AE as compared with C?—"Therefore AE is *equal* to C." How is AE equal to C?—"*Things which are equal to the same thing, are equal to one another.*" (Axiom 1.) What two lines are equal?—"Therefore *AE* is equal to C."

Conclusion.—From what straight line has AE been cut off?—"Wherefore from *AB, the greater* of the two given straight lines, a part AE has been cut off equal to C, the less," What AE is equal to?—"Wherefore from AB, the greater of the two given straight lines, a part AE has been cut off equal to *C, the less.*" Which is the required part?—"Wherefore from AB, the greater of two given straight lines, a part *AE* has been cut off equal to C the less." Q. E. F. (=*quod erat faciendum*).

To memorise the number of the proposition, make a Double Inclusion, the first consonant of which expresses the *number* of the *Book* and the remaining consonant or consonants indicate the *number* of the *Proposition*: thus *Judge* would mean the sixth Proposition of the sixth Book. Then correlate this Double Inclusion to the *characterising word* [always the principal or new point] of the Proposition itself, and memorise the Correlation. In this way you can recite the Propositions of each Book forward or backward without mistake, or instantly tell the number of any Proposition and the Book to which it belongs, or on any number of a Proposition of any Book being mentioned, you can state at once the proposition itself if you have memorised it.

B.I., P.1.—*Deed* . . deed-box . . equal sides . . EQUILATERAL . . "To describe an *equilateral* triangle, etc.,

B. I., P. 2.—*Then*..thence..FROM.."*From* a given point, etc."

B. I., P...3.—*Dam*..to block up..blockade..CUT OFF.."From the greater, etc., *to cut* off, etc."

B. I., P. 4.—*Wither*..withered..THIRD.."If two triangles have, etc., they shall also have their bases or *third* sides equal."

B. I., P. 5.—*Tall*..long legged..equal legged..ISOSCELES.."The angles at the base of an *isosceles* triangle, etc."

B. I. P. 6—*Dish*..waiter..attendant..sub-attendant .SUBTEND.. "If two angles of a triangle be equal, etc., the sides also which *subtend*, etc."

B. I., P. 7.—*Dock*..tail .end..TERMINATION..EXTREMITY.."On the same base, etc. there cannot be two triangles having their sides which are *terminated* at one *extremity* of the base, etc.,

B. I., P. 8.—*Dove* .. Hurlingham.. lawn tennis..contended by two sides..CONTAINED BY THE TWO SIDES.."If two triangles have, etc., and likewise their bases, etc., the angle which is *contained by the two sides*, etc."

B. I. P. 9.—*Dip*..compass needle..quadrant..RECTILINEAL ANGLE .."To bisect a given *rectilineal angle*, etc."

B. I., P. 10.—*Dates*..leap years..bissextile..BISECT A STRAIGHT LINE.."To *bisect* a given finite *straight line*," etc.

B. I., P. 11.—*Dotted*..dots..full points..points in the book.. POINT IN.."To draw a straight line at right angles, etc., from a given *point in* the same."

B. I., P. 12.—Out*done* .. done without.. POINT WITHOUT.."To draw a straight line perpendicular to a given straight line, etc., from a given *point without* it."

B. I., P. 13.—*Diadem*..diamond..gem..cat's eye..* EITHER.. "The angles which one straight line, etc., *either* are two right angles, etc."

B. I., P. 14.—*Theatre*..tragedy..tragic..touching..ADJACENT.. "If at a point, etc., two other straight lines, etc., make the *adjacent* angles, etc."

B. I., P. 15.—*Total*..teetotaler..firm step..upright..VERTICAL.. "If two straight lines cut one another, the *vertical*, etc."

---

*The diphthong *ei* is sometimes pronounced like long e and sometimes like long i. Here I adopt what seems to be the better usage, and I pronounce it as long i, making a perfect In. by S. with cat's *eye*.

DERBY WINNERS.

PRIVATE and PUBLIC MEMORIES.—Many persons whose memories are reliable in private, seem to lose all control over their recollective powers in the presence of their friends. This is owing to mind-wandering and nervousness. These infirmities can be completely cured by doing Memory-feats in the presence of others. Let the pupil who is anxious to attain the FULL POWER of this System recite the Knight's Tour, The Boat Race, Ratio, and Derby Winners, at least twenty times—each of them—before their friends or acquaintances. This practice will strengthen their continuity, overcome nervousness, and make them understand the real nature and character of this System, and enable them to apply it readily to new and hitherto unsuspected cases.

DERBY..Derby dog .*dog face* (1780)..hang-dog-look..villain..deep-dyed..DIOMED.

Vat (1781)..vaticinator..prediction..foretelling eclipse..YOUNG ECLIPSE.

Fan (1782)..cool..blood-heat..blood..ASSASSIN.

Foam (1783)..sea..salt..SALTRAM.

Fire (1784)..rifle..volunteer..SERGEANT.

Fall (1785)..apple..William Tell..AIMWELL.

Fish (1786)..bait.."gentle"..gentleman..NOBLE.

Fag (1787)..fagot..fire..peat..SIR PETER TEAZLE.

Fife (1788)..fife and drum..soldiers..massacre..SIR THOMAS.

Fog (1789)..watch..watch-dog..Skye terrier..SKYSCRAPER.

As the years follow each other without interval there is no need to correlate them together. The name of the horse is correlated *after* the date-word. (See p. 156.)

When he knows the names and dates of the horses, the pupil can, if he likes, correlate to each horse the name of the Jockey. Thus, for 1883:—ST. BLAISE..*Fire*..*coal*..*origin of coal*..C. WOOD; and to Wood, the Jockey's name, he can correlate the name of the Owner, Sir F. Johnstone, thus:—Wood..*Forest*..*rest*..*last resting-place*..*tombstone*..SIR F. JOHNSTONE. And similarly he can fix in his memory the names of the other Jockeys and Owners.

LEARNING LEDGER FOLIOS, CHEMICAL FORMULÆ, ETC.

If a book-keeper wishes to learn the number of the ledger page where a name is entered, he at once correlates the name to the word that translates the figures that express the number of the page. But, in the case of the same name being entered on several different pages of the same book, he correlates the name to the words that successively express the different pages. But suppose the more difficult case of there being several different men, having the same name, as a dozen Browns, a dozen Smiths, etc., etc., what is he to do? A reperusal of the explanation of Double Inclusion, etc., in Synthesis, will give one out of the many ways that he could resort to memorise the pages. Suppose the Smith of Edinburgh is on page 941, the Smith of Liverpool on page 53, and the Smith of Birmingham on page 745. He at once makes a word *beginning* with *S* to tell him it is Smith, and having as its remaining consonants letters which translate the number of the page. "Support" is therefore the Edinburgh Smith, on page 941; "Siloam" is the Liverpool Smith, on page 53; and "Squirrel" is the Birmingham Smith on page 745. And if he doubt his natural memory, he correlates "Edinburgh" as the "best known" to "support," thus: EDINBURGH..*burglar*..*transportation*..SUPPORT; LIVERPOOL..*pool*..SILOAM; BIRMINGHAM ..*burr*..*nut*..SQUIRREL. Or, if the Browns and Smiths, etc., etc., are all in the same city where he resides, he can use the *name* of the street as the "best known" and correlate that to the homophone as above that tells the name and the number.

Similarly, a pupil could deal with a Chemical Formula, like Quinia=C_{20}, H_{24}, N_2, O_2. He could make a word *beginning* with the Symbol of the chemical element, while the remaining consonants of the word spell the figures attached to that element. C would make Ca*n*es, H would make ho*n*or, N_2 would make Nu*n*, and O would make O*n*e. By correlating these words together, and memorising the Correlations, he can at once restore the Formula from memory: [QUINIA..*quinine*..*cat-o'-nine tails*..*lashes*..CANES ..*caning*..*disgrace*..HONOR..*purity* ..NUN..*none*..ONE]. And whatever the complication might be, he can always readily deal with it—for instance, suppose there are numbers both before and after such Symbol, as 3 C_{20}, 10 H_{24}, 2 N_2, and 7 O_2, these would be translated into: My Canes, Dishonor New Nun, and Coy One.

MULTIPLICATION TABLE.

Continued as far as 13 *times* 24.

In memorising this extension of the ordinary multiplication table, it is not necessary to notice the figure 1 before the 3 of 13 and in the other "teens," as the learner of course knows it must be repeated every time, and does not need to remind himself of it; therefore, "maim" may mean "3 times 13" instead of "3 times 3;" "mummy" may mean "13 times 13" instead of "3 times 3;" and MANOR, 13 times 24.

NUMB..	teeth chattering..	GNASH
twice (1)3 is		2 6
MAIM..	mutilate..devilish..	IMP
3 times (1)3 is		39
REAM..	paper..white..	LAWN
4 times (1)3 is		5 2
LOOM..	woven..	SHAWL
5 times (1)3 is		6 5
JAM..	bread and jam .breakfast..	COFFEE
6 times(1)3 is		7 8
GAME..	cricket..	BAT
7 times (1)3 is		9 1
FUME..	rage..passion..	DESIRE
8 times (1)3 is		1 0 4
BEAM..	"own eye"..tooth	TEETHING
9 times (1)3 is		1 1 7
DISMAY..	appalling..death..	DEMISE
10 times (1)3 is		1 3 0
DIADEM..	stage king..	DRAMA
11 times (1)3 is		1 4 3
AUTONOMY	economy..thrifty..peasant..	TILLAGE
12 times (1)3 is		1 5 6
MUMM ..	stone box..toy box..	TOYSHOP
(1)3 times (1)3 is		1 6 9
HOMER..	blind..deaf..	DEAFEN
(1)3 times (1)4 is		1 8 2
MEAL..	dining table..	TABLE
(1)3 times (1)5 is		1 95
MATCH	safety match. safe..	UNSAFE
(1)3 times (1)6 is		20 8

MICA..	glittering. bright..	NOONDAY
or MACAW..	vivid scarlet..bright..	NOONDAY
or, MEEK..	cowed..stray dog..	UNOWNED
or, OMEGA..	end ..end of life..	NINETY
(1)3 times (1)7 is		2 2 1
"MUFF"..	soft youth..love..	ENAMOR
(1)3 times (1)8 is		2 3 4
MOB..	crowded..Noah's Ark..	NEWARK
(1)3 times (1)9 is		2 47
MINCE..	cut small..small cuts..	NOTCHES
(1)3 times (2)0 is		2 6 0
MONDAY..	market day..profits..	INCOME
(1)3 times 21 is		2 7 3
MINION..	mean favorite..tricky..	KNAVISH
(1)3 times 22 is		2 8 6
AMMONIUM..	ammonia..pungent..pickles..	"NABOB"
(1)3 times 23 is		2 9 9
MANOR..	farm..sheep..	MUTTON
(1)3 times 24 is		3 1 2

The pupil will find it a good exercise in the use of the Figure Alphabet, and of Synthesis, to continue this table to "24 times 24."

EXPLANATIONS OF THE MACREADY ANECDOTE.

The student must exercise his judgment as to what is the *best known* to which he will Correlate an *isolated fact.* In the anecdote mentioned in a foot note * to Comic Lecture on Mnemonics, the actor should have correlated the word "Numitorius," which he could *not* remember, to the word "Uncle" as the BEST KNOWN that preceded it, which he could remember, or to his "cue" the word "Question," thus:

---

* The following anecdote is taken from the ERA ALMANAC, 1882, p. 36.—The actor, whose name was Taylor, could not remember the name assigned him in his part in the play. We shall see how Mnemonics helped him!

ASSOCIATION OF IDEAS.—Macready was once victimised in *Virginius.* The Numitorius could not remember his own name. "You will remember it, Sir," said the tragedian, carefully pronouncing it for him, "by the association of ideas. Think of Numbers—the Book of Numbers." The Numitorius did think of it all day, and at night produced, through "the association of ideas" the following effect—

Numitorius—"Where is Virginia? Wherefore do you hold that maiden's hand?"

Claudius—"Who asks the question?"

Numitorius—"I, her Uncle—DEUTERONOMY!"

UNCLE [2] Nephew [1] You [1] *knew*—NU-mitorius. *Or*,
UNCLE [2] Niece [1] Neat [1] Neat and New [1] *A new mitre o'er us* [1] NU-mitorius.

Or,

QUESTION [1] Wants to know [1] Know [1] knew [1] *knew my story* [1] NU-mitorius. *Or*,

QUESTICN [1] Quest [1] Guessed [1] Knew [1] *Knew a mighty Tory!* [1] NU-mitorius.

Had the actor memorized either of these Correlations, he would *not* have forgotten Numitorius in his performance. In all similar cases mere In. by sound, like the word "Numbers" which Macready proposed, and which is really not a genuine In. by sound, is no service to a poor memory.—A Correlation alone suffices.

To any conceivable "*Isolated Fact*" you can find a *Best Known* to which you can correlate it, and thereby always have it at command. This is true, even in cases of *anticipatory* memory. Instead of tying a string round your finger to remind you to buy something when you get to the bazaar, and when you get there forgetting to notice the string or forgetting what the string was intended to remind you of, correlate the name of what you wish to purchase to the name of something you are sure to *think* of at the place you are going to, and memorise the Correlation. When you see the *Best Known*, the thing you correlated to it will at once occur to mind. I will add only one more illustration: A commercial traveller was in the habit of putting his watch under his pillow, and also in the habit of forgetting that he put it there! After losing two watches in this way, he came to me to improve his memory, and asked me if this System could aid him to think of his watch and where he had put it. "Infallibly," I replied, "if there is anything you can mention which you are *certain* to think of when you get up, such as boots, trousers, hat, etc." "There is one thing," he rejoined, "I am more certain to think of than any article of clothing. I always think what a shame it is I have to get up." "Well, you are sure to think of the words 'get up;' that then is your *Best Known*. Affiliate the word watch to it—thus 'GET UP'—Spring up—Watch Spring—WATCH." After a tour of four month he reported he had always thought of his watch the moment he awoke.

LATITUDES AND LONGITUDES.

The method of dealing with Latitudes and Longitudes would be simple enough if there were not two kinds of each; yet this difficulty vanishes if we treat NORTH Latitudes and EAST Longitudes as ordinary figures, and resort to the special device of using figure-words beginning with an S to denote SOUTH Latitudes and WEST Longitudes [and no special device would be needed if we realized exactly what part of the Globe each place occupies].

1. Constantinople is North Latitude 41° [*ready*] and East Longitude 28° [*knave*]. CONSTANTINOPLE..constant..always ready ..*ready*..red..blood red..assassin..*knave.*

2. New York City is North Latitude 40°52′ [*horse line*] and West Longitude 73°59′ [*scheme all happy*]. NEW YORK CITY..Manhattan..hat..band..line..*a horse line*..steam horse..railway..submarine railway..*scheme all happy.*

3. Sydney, South Latitude 33°51′ [*Simoom light*] and East Longitude 151°11′ [*dull eyed idiot*]. SYDNEY..antipodes..anti..against..disaster..sighs..*Simoom light*..light..eye..*dull eyed idiot.*

4. Rio de Janeiro. South Latitude 22°54′ [*sea onion healer*] and West Longitude 43°9′ [*swarm by*]. RIO DE JANEIRO..row..garden bed..onion bed..*sea onion healer*..cough healer..honey..bees *swarm by.*

☞Let the pupil note that we always give the Latitude first and Longitude last. Sometimes a compound date-word will express the Latitude and Longitude together. *"A ready knave"* would have answered in the first example, etc.

THE INTERROGATIVE METHOD—*continued.*

Let the Student first analyse by the Interrogative Method *the whole of* "The Seven Ages" *before looking at my Analysis of it*, and then carefully compare his own Analysis with mine, so far as mine goes.

THE SEVEN AGES.

All the world's a stage,
And all the men and women merely players:
They have their exits and their entrances;
And one man in his time plays many parts,

His acts being seven ages. At first, the infant,
Mewling and puking in his nurse's arms.
And then, the whining school-boy, with his satchel,
And shining morning face, creeping like snail
Unwillingly to school. And then, the lover,
Sighing like furnace, with a woful ballad
Made to his mistress' eyebrow. Then, the soldier,
Full of strange oaths, and bearded like the pard,
Jealous in honor, sudden and quick in quarrel,
Seeking the bubble reputation
Even in the cannon's mouth. And then, the Justice,
In fair round body, with good capon lin'd;
With eyes severe, and beard of formal cut,
Full of wise saws and modern instances;
And so he plays his part. The sixth age shifts
Into the lean and slipper'd pantaloon,
With spectacles on nose, and pouch on side:
His youthful hose well sav'd, a world too wide
For his shrunk shank; and his big manly voice,
Turning again toward childish treble, pipes
And whistles in his sound. Last scene of all,
That ends this strange evenful history,
Is second childishness, and mere oblivion:
Sans teeth, sans eyes, sans taste, sans everything.

(1) How much of the world is a stage?—"*All* the world's a stage." (2) The whole of what is a stage?—"All the *world's* a stage." (3) What is the whole of the world?—"All the world's a *stage.*" (4) If all the world is a stage, who are the players?—"And *all the men* and *women* merely players." (5) What portion of men and women are players?—..And *all* the men and women merely players." (6) What are all the men and women?—"And all the men and women merely *players.*" (7) Are the men and women anything but players?—"And all the men and women *merely* players." (8) What have these male and female players?—"They have *their exits and their entrances.*" (9) Who have their exits and their entrances?—"*They* have their exits and their entrances." (10) What are the going off and coming on of actors called?—"They have their *exits* and their *entrances.*" (11) What assertion is made of the players?—"They *have* their exits and their entrances." (12) What does one man in his time play?—"And one

man in his time plays *many parts*, his acts being seven ages." (13) When does one man play many parts?—"And one man *in his time* plays many parts, his acts being seven ages." (14) What does one man do?—And one man in his time *plays* many parts, his acts being seven ages." (15) How many parts does one man play?—"And one man in his time plays *many* parts, his acts being seven ages." (16) If he plays many parts or characters, what are his acts?—"And one man in his time plays many parts, his acts being *seven ages.*" (17) What are seven ages in a man's time?—"And one man in his time plays many parts, his *acts* being seven ages." (18) What is affirmed of a man's acts?—"And one man in his time plays many parts, his acts *being* seven ages." (19) What is the first of the seven ages?—"At first, the *infant*, mewling and puking in his nurse's arms." (20) At what time does the infantile age begin?—"At *first*, the infant, mewling and puking in his nurse's arms." (21) What is the infant doing?—"At first, the infant, *mewling* and *puking* in his nurse's arms." (22) Where does the infant mewl and puke?—"At first, the infant, mewling and puking in his nurse's *arms.*" (23) In whose arms does he mewl and puke!—"At first the infant mewling and puking in his *nurse's* arms." (24) What are the Shakesperian names for the infantile murmuring and vomiting?—"At first the infant *mewling* and *puking* in his nurses arms." (25) What age follows that of the infant?—"And then the whining *school-boy*, with his satchel and shining morning face, creeping like snail unwillingly to school." (26) How do you know that the school-boy's age succeeds that of a previous one? "*And then* the whining school-boy, with his satchel and shining morning face, creeping like snail unwillingly to school." (27) What is an audible characteristic of the school-boy?—"And then the *whining* school-boy, with his satchel and shining morning face, creeping like snail unwillingly to school." (28) What sort of a boy is the one instanced here? "And then the whining *school* boy, with his satchel and shining morning face, creeping like snail unwillingly to school'" (29) What does he carry wtth him?—"And then the whining school-boy, *with his satchel* and shining morning face, creeping like snail unwillingly to school." (30) What kind of a face does he wear?—"And then the whining school-boy, with his satchel and shining *morning* face, creeping like snail unwillingly to school." (31) How is his morning face?—"And then the whining school-boy, with his satchel and *shining* morning face, creeping like snail unwillingly to school." (32) What part of the school-boy's person is

said to have a morning shine about it?—"And then the whining school-boy, with his satchel and shining morning *face*, creeping like snail unwillingly to school." (33) How does he move?—"And then the whining school-boy, with his satchel and shining morning face, *creeping* like snail unwillingly to school." (34) What does he creep like?—"And then the whining school-boy with his satchel and shining morning face, creeping like *snail* unwillingly to school." (35) What resemblance do the boy's movement bear to those of the snail?—"And then the whining school-boy with his satchel and shining morning face, creeping *like* snail unwillingly to school." (36) In what mental condition does he go to school?—"And then the whining school-boy, with his satchel and shining morning face, creeping like snail *unwillingly* to school," (37) Whither goes he unwillingly?—"And then the whining school-boy, with his satchel and shining morning face, creeping like snail unwillingly to *school.*" (38) What age succeeds the school-boy's?—"And then the *lover*, sighing like furnace, with a woful ballad, made to his mistress' eyebrow." (39) In what respect does he resemble a furnace?—"And then the lover, *sighing* like furnace, with a woful ballad, made to his mistress' eyebrow." (40) What does the lover's sighing resemble?—"And then the lover, sighing like *furnace*, with a woful ballad made to his mistress' eyebrow." (41) Does the lover's sighing bear any resemblance to a furnace?—"And then the lover, sighing *like* furnace, with a woful ballad, made to his mistress' eyebrow?—42)Has the lover anything with him?—"And then the lover, sighing like furnace, with a woful *ballad*, made to his mistress' eyebrow." (43) What kind of a ballad is it?—"And then the lover, sighing like furnace, with a *woful* ballad, made to his mistress' eyebrow." 44) To whose mistress' eyebrow is the lover's ballad made?—"And then the lover, sighing like furnace, with a woful ballad made to *his* mistress' eyebrow." (45) To whose eyebrow is the lover's ballad made?—"And then the lover, sighing like furnace, with a woful ballad, made to his *mistress'* eyebrow." (46) To what part of his mistress' face is the lover's ballad made?—"And then the lover, sighing like furnace, with a woful ballad made to his mistress' *egebrow.*" (47) How do we know that the soldier's age follows upon the lover's?—"*Then* the soldier, full of strange oaths, and bearded like the pard; jealous in honor, sudden and quick in quarrel, seeking the bubble reputation even in the cannon's mouth." (48) Who is full of strange oaths?—"Then the *soldier*, full of strange oaths." (49) Is he lavish or sparing of his

oaths?—"Then the soldier, *full* of strange oaths." (50) What is he full of?—"Then the soldier full of strange *oaths*." (51) What kind of oaths is the soldier full of?—"Then the soldier full of *strange* oaths." (52) How was he bearded?—"Then the soldier, full of strange oaths and bearded like the *pard*." (53) What relation has the soldier's beard to the pard's?—"Then the soldier, full of strange oaths and bearded *like* the pard." (54) How is the soldier's face?—"Then the soldier, full of strange oaths and *bearded* like the pard," (55) What is the soldier's attitude in regard to honor?—"Then the soldier, full of strange oaths, and bearded like the pard, *jealous* in honor, sudden and quick in quarrel, seeking the bubble reputation even in the cannon's mouth," (56) In regard to what is he jealous?—"Then the soldier, full of strange oaths, and bearded like the pard, jea lous in *honor*, sudden and quick in quarrel, seeking the bubble reputation even in the canon'ns mouth." (57) How is he affected in regard to quarreling?—"Then the soldier, full of strange oaths, and bearded like the pard, jealous in honor, *sudden* and *quick* in quarrel, seeking the bubble reputation even in the cannon's mouth." (58) In what is he sudden and quick?—"Then the soldier, full of strange oaths, and bearded like the pard, jealous in honor, sudden and quick in *quarrel*, seeking the bubble reputation even in the cannon's mouth." (59) What does he seek even in the canon's mouth?—"Then the soldier, full of strange oaths, and bearded like the pard, jealous in honor, sudden and quick in quarrel, seeking the *bubble reputation* even in the cannon's mouth." (60) Is he anxious for the bubble reputation?—"Then the soldier, full of strange oaths, and bearded like the bard, jealous in honor, sudden and quick in quarrel, *seeking* the bubble reputation even in the cannon's mouth." (61) Where does he seek the bubble reputation?—"Then the soldier, full of strange oaths, and bearded like the pard, jealous in honor, sudden and quick in quarrel, seeking the bubble reputation even in *the cannon's mouth.*" (62) In the mouth of what does he seek the bubble reputation?—"Then the soldier, full of strange oaths, and bearded like the pard, jealous in honor, sudden and quick in quarrel, seeking the bubble reputation even in the *cannon's* mouth." (63) In what part of the cannon does he seek the bubble reputation?—"Then the soldier, full of strange oaths, and bearded like the pard, jealous in honor, sudden and quick in quarrel, seeking the bubble reputation even in the cannon's *mouth.*" (64) How is emphasis given to the fact of his seeking the bubble reputation in the cannon's mouth?—"Then the

soldier, full of strange oaths, and bearded like the pard, jealous in honor, sudden and quick in quarrel, seeking the bubble reputation *even* in the cannon's mouth.

HABITUALLY CORRELATING.

Few realise the fact that a new mental habit can be acquired and perfected in vastly less time than a new physical habit. But this habit of making Correlations—being only the doing CONSCIOUSLY that which the mind has always done unconsciously and instinctively, but very slowly and only after numerous repetitions—is acquired more quickly than any other new mental habit. The indirect advantages of acquiring this power are quite as great as the direct advantages. Wherein do the achievements of a Genius differ from those of other men? Not so much in his original endowment with a higher grade of THINKING POWER, as in this, that from his greater SURENESS of Memory all the *pertinent facts of a case* are more *vividly before his intellect* and kept there by his strong concentration when he has occasion to form opinions or draw inferences, Thus, the practice of making Correlations, by accustoming the mind to appropriate and MAKE USE of acquired facts and ideas, similarly qualifies the ordinary intellect to use to the very best advantage the vast stores of knowledge which this System may have helped to accumulate.

But the grand advantage of making and memorising one's own Correlations is that soon it will not be necessary to make any more of them. The latent power of the Memory having been fully developed, the new Memory will carry all burdens imposed on it, and retain everything that one cares to remember, except, of course, very complicated matters, where the use of the Method may be needful,

PART VI.

HOW TO SECURE
THE CERTAINTY OF NEVER FORGETTING.

I.—It is not to be supposed that the Art of Never Forgetting applies to a time previous to the period in which the pupil learned the Art. All this portion of his life rests of course upon his unaided Natural Memory, except that the Art of Never Forgetting enables him to recall such previous impressions more quickly than formerly.

II.—The Art of Never Forgetting does not refer in the early stages of the student's career, to any case in which it has *not been specially applied*, except in an *indirect* manner, and only so far and as fast as his Natural Memory has been strengthened by the System. His Natural Memory, however, has been improved *exactly in proportion* to the pains that he has taken to carry out *all my directions*, and also in the degree that *time* has had its play in giving full development to organic growth. The *Natural Memory becomes more powerful* as the consciousness of In., Ex., and Con. becomes habitually more sharp and well-defined—a result of practice only. The habit of *always* indicating the character of the intermediates of a Correlation, and particularly the habit of *always memorising one's Correlations*, * rapidly develops the Natural Memory—in a way

* In every case where Correlations are mentioned, the student could of course use the Interrogative Analysis.

not unlike that in which the observing powers of the portrait painter are strengthened in regard to the lineaments of faces; before he learnt his art, all faces were demarcated by certain general differences, but he now notices individualities and characteristics that formerly entirely escaped his scrutiny. Similarly, the Memorist discerning in every mental act *one or more* of the *three memory* relations more markedly and obtrusively than before, *the first impressions* become more strongly cemented together even where the System is not designedly applied, and their *recall* is thereby greatly facilitated. Nor is this all; the practice of *concentrating* the *attention* upon the "extremes" when studying to link them together promotes the power of "concurrence" to an almost unlimited extent. Besides, the agreeable shock of surprise experienced by the student in making Correlations causes him to return to this practice with renewed zest, and always with the *added skill* acquired in previous exercises. And then the habit of *memorising* all his Correlations greatly faciltates making new ones as well as *remembering them with constantly diminishing* effort, until at length—not of course whilst learning this System, nor necessarily immediately afterwards, but in due time—in some cases weeks, in other cases months, in very rare exceptional cases perhaps a year—the *making* of Correlations thereby becomes the *remembering* of them; in other words, all *Correlations* are henceforth *self-memorised !* —a power for rapid and never-forgetting acquisition not easily estimated and certainly unlikely to be over-estimated.

There is a final stage to which all the diligent cultivators of the Art of Never Forgetting are sure to arrive if they posses average ability, and have never permanently injured their memory and other faculties by dissipation or other perverse habits, and are not thwarted and palsied in all their mental operations by a weak continuity. In this stage, except perhaps for a grand Memory Display, the Natural Memory having become so strong and retentive, Correlations are no longer required. The student having now become a Memory Athlete, his Natural Memory is so vigorous as to enable him to carry any burdens of recollection with perfect ease. This result may be certainly attained by all students of the Art of Never Forgetting, whether old or young, if they faithfully carry out all my instructions, not otherwise,

But this highest possible strengthening of the Natural Memory through the TRAINING power of this System. is not at all necessary in ordinary cases and for ordinary purposes—yet it is always

necessary where the pupil desires to derive the utmost possible benefit from the System, Even if a pupil never rises above the necessity of *making* and *memorising* Correlations in all cases where he wishes to remember anything, he can still learn a task by memorised Correlations or Interrogative Analysis in *one-twentieth part* of the time that he could possibly accomplish the same result with *equal thoroughness* by his unassisted Natural Memory,

III.—What then is the meaning of the Certainty of Never Forgetting? It means that if you wish to retain and never lose your hold on *any fact whatever*, you have an infallible resource for doing so by means of a *memorised Correlation*. This is the veritable philosopher's stone that turns an otherwise EVANESCENT IMPRESSION into the pure gold of a PERMANENT retention.

IV.—It must here be observed that the Art of Never Forgetting, as such and in its own capacity, has nothing whatever to do with the *comprehension* of a study. That is taken for granted throughout. Whatever be the subject-matter under consideration, whether the pupil be listening to a lecture or reading a book, the *understanding* of the lecture or book is assumed—the business of the Memorist commences only when its *Retention* is required. Let no one imagine that this System is a Substitute for grasping the *meaning* and mastering the *facts* and *principles* of any subject. Let the pupil avail himself of all possible aids for the *understanding* of his Lessons—the assistance of teachers, actual inspection or personal manipulation where possible, and an exhaustive study and pondering of the matter in hand; and when his intellect has in this manner absorbed all the necessary and pertinent ideas of the topic under his consideration, he will then make use of this System to INDELIBLY IMPRESS all these facts, principles, and ideas in his Memory. To illustrate my views in detail let me remark that there are three grades of Memory: (1) Mere verbal memory, or learning by *Rote*. (2) The memory of *Comprehension*. (3) The memory of *Retention*.

(1) Learning by ROTE is learning by heart by means of endless repetition. Acquisition in this way is done by brute force of memory, without any aid from intellectual contact with the subject-matter itself. It is simply committing to memory *words* without any pretence of absorbing or assimilating the ideas they represent, their meanings, or the relation they sustain to each other. This

is cramming. The crammer is indifferent how ignorant he may really be or continue, if he only succeed in passing the ordeal of examination.

Suppose the learner by *rote* attempts to study Geometry. He commits the demonstrations to memory, and he has no more conception of what the figures, lines and angles, and their relations mean than he has of copies of hieroglyphics. Instead of first thoroughly *studying* and thinking out the import of each Definition, Postulate, and Axiom, and then learning the demonstrations by Analysis, since the successive steps are always Inclusions or Exclusions, he does not strive to understand them at all, but merely memorises everything *verbatim*, with the certainty of soon forgetting all he has learned. Suppose he takes up Structural Botany, and he has got to the Flower, he reads that the Flower has four Whorls or parts—(1) The Calyx, (2) Corolla, (3) Stamens, and (4) Pistil; and that the Calyx is composed of leaves called Sepals—the Corolla of Petals—the Stamen of the Filament, Anther and Pollen; and the Pistil of the Ovary, Style and Stigma. He wants to remember all these new and wholly unfamiliar facts and these technical words; and he does so by repeating them over and over again, parrot-like, until he can say them by rote. They must be repeated until the mind succeeds in forming *unconscious* Correlations—the weakest of all—mere *sound* Inclusions and *sound* Concurrences—no Inclusions or Exclusions of *meaning*, nor any Concurrences of Sense or Ideas; nor are they consciously repeated forward and backward with a recapitulation of both extremes. The *things themselves* have not been carefully studied and closely inspected, nor have the *descriptive words* become connected by concurrence with the *facts* for which they stand, The case is almost on all fours with trying to learn mere gibberish—"full of sound and fury, *signifying* nothing." No wonder, then, that learning by rote produces only short-lived impressions. Such a course promotes mind-wandering; it leaves no permanent trace, and it usually breaks down the health. It is not study; for long ago Montaigne taught that learning by heart is not *learning*.

(2) The Memory of Comprehension is that which follows or survives the *understanding* of a subject. This method of acquiring knowledge is taught in Kindergarten Schools and elsewhere by Object Lessons It is superior in every way to learning by *rote*. The student of this Method, if attempting to learn the aforesaid Botany Lesson, would insist on having real Flowers before him. He

would dissect many of them—identifying each part as he proceeded —until by dint of *observations repeated*, and the recalling of the technical names in connection with the observations, he fixed the special terms and their applications clearly in mind, This is the true course to pursue in any new scientific study. Yet it cannot be relied upon except by those having unusually trustworthy Natural Memories. The retention is more permanent than in the case of learning by rote. Still, perpetual reviews are necessary to conserve the recollection of the facts learned by the method of Comprehension. A poor memory may receive a message, be able to repeat its import and details on the spot, and yet forget half of them before a street is crossed or ten minutes have elapsed. Even supposing a pupil perfectly *understands* a definition, description, experiment, or demonstration, the relation which one part of a subject bears to another, the part to the whole and the whole to the part, yet this is no assurance that he will permanently or for any considerable period *retain* all this knowledge. A reader may be able to tell you the contents of a chapter or even a whole book *immediately* after reading it, who invariably forgets all about it the next day, week, month, or year. There is always a memory, however evanescent, that follows the contact by rote with any subject; a more prolonged memory that ensues from the *comprehension* of a subject; but a permanent *retention* is only secured, alike by the best or worst natural memories, by the Art of Never Forgetting.

(3) The memory of RETENTION.

Supposing that the pupil, having arrived at this place in this Lesson, has really qualified himself to proceed, I will add here what I have said before very many times, that this System presupposes the *comprehension* of a subject. That is not all. I take it for granted in this Lesson that the pupil has carried out all my instructions in the preceding Lessons, and that he has thus already attained increased RETENTIVENESS from this System as a MEMORY-TRAINER. These facts being assumed, Correlations step in and photograph the *understanding* of it permanently on his memory. Suppose the pupil has understood the Lesson on the Flower, he can at once identify and name each part of it. He has looked up the derivation of the technical terms, and he has thought out the inclusions involved in the derived and original meanings, and he has assimilated the reasons why these terms are used. At length he proceeds to fix these terms in his memory by means of Correlations. What has been accomplished by the *comprehension* of a sub-

ject? There has been made a vivid First Impression. The relation of each part to the whole, and of the whole to the parts, has been understood; there has been a dove tailing, an intertwining of all the new ideas, and of the fresh knowledge, into and amongst the old ideas and old knowledge already stored up in the mind. The things themselves, the facts andtheirrelations, are what are thought of and considered; and although words—in this case not mere words, but truly the representatives of things—are used in Correlations, yet, when memorised, there has resulted a CONSOLIDATION of the facts and ideas regarding the matter under consideration. To use a crude illustration, it may be said the complete and perfect understanding of a subject has created a heat in the brain, and the knowledge lies amongst its elements, like melted lead in the crucible lover the fire; and instead of its being left there to oxidise into scum or dross, Correlations pour the molten ore into moulds, that fashion it as it solidifies into any *permanent* shape required.

To the student commencing the study of Botany there is one word that is "well known"—the word Flower. To this he attaches in a chain the four whorls, or successive principal parts of the Flower, by means of Correlations, memorising each one as soon as he makes it. Although I have over and over again insisted on the proper method of memorising a Correlation, yet *all* my pupils do not practise my method. But no Correlation is memorised unless the pupil, after reading it over, then turns away and repeats from *memory* [not *reading* it over and over again] the Extremes and Intermediates, forwards and *backwards*, from three to six times each way, and then recapitulates the two Extremes, always repeating the Correlation more *rapidly* each time than before. More pains than this is rarely, if ever, necessary, even in the case of the weakest memory, even during the period of Memory-*Training;* and in no case is it necessary after the pupil has strengthened and invigorated his memory by a sufficient amount of practice. To Flower he correlates Calyx, Calyx to Corolla, Corolla to Stamens, and Stamens to Pistil, thus: [or, better still, makes and memorises his own Correlations in this as in all other cases]—

FLOWER..*bread*..*bread-provider*..*caterer*..CALYX..*licks*..*tongue*..*voice*..*many voices*..*chorus*..COROLLA..*Rolla*..*Peruvian Hero*..*Peruvian bark*..*tonic*..*staying power*..STAMENS..*stays*..*ropes*..*pulley*..*pull*..*trigger*..*pistol*..PISTIL. The pupil might repeat the words by *rote*—Flower, Calyx, Corolla, Stamens, Pistil, *a thousand*

times but this would not make so definite and vivid an impression on his memory as the memorising of the connecting Correlations would, a feat of a few minutes only. After he has memorised the Correlations that unite the four parts together, he then Correlates to each part the sub-parts that belong to each, thus: CALYX *..lictor..scourge..criminals..pals..* SEPALS. And to Corolla he correlates its component parts, thus: COROLLA *.rollicking..frolicsome..lambs..pet*-lambs..PETALS. And to Stamens he correlates its component parts, thus: STAMENS..*mendicant..ragged..dress..habiliment..* FILAMENT..*fill..organ pipe..anthem..* ANTHERS..*Polyanthus..* POLLEN. And to Pistil he correlates its component parts, thus: PISTIL..*shot..Shotover..* OVARY..*vary..fashion..* STYLE..*stylus..lustre ·honor..disgrace..* STIGMA.

Suppose the Student is studying Anatomy, he has the pictures in the text-book and the SKELETON before him to enable him to get the correct impression of the different parts of it. And when he has mastered the theory and details, he wishes to impress them permanently on his memory. There are only two methods possible:—

(1) The *first* is the traditional method of learning by *rote* or endless repetition. A celebrated coach in Anatomy says that no one can learn Anatomy until he has learned and *forgotten* it from three to seven times! In learning any book in this way, each sentence would be repeated over and over again, and then reviewed and *re*-learnt and forgotten and learned again! and then at last the pupil, if he possessed a first rate *cramming* memory might answer questions on it, but would be utterly unable to begin at the first section and go on and give the contents of each succeeding section till the close. In learning a book by *rote*, the number of times that each sentence and section are repeated, if actually written out and printed, would doubtless cover 5,000 to 50,000 or more pages!—and even then the pupil passes his examination, if he really does "pass," partly by luck and partly by merit; and all his life he is constantly referring to it, and studying it, over and over again—showing really that he possesses little more than Reference Memory in regard to it! But let us be candid and confess the truth; tens of thousands every year and during successive years try the various professions—law, medicine, divinity, or sciences, history, etc.,—and utterly fail to "pass," even respectably, because they lack the extraordinary memory necessary to acquire knowledge by *rote*.

(2) What a prodigious saving of time, and what a different result, when the pupil applies my Art to the study of Anatomy! After first getting a clear idea of the matter he is dealing with, he then correlates together the principal grand divisions of the subject—(1) Trunk, (2) Cranium, (3) Extremities (arms and legs), and (4) Unclassified bones, Beginning with the word "Bones" as the Best Known and the subject-matter under consideration, he proceeds thus; BONES..breastbone..breast..chest..TRUNK..elephant's trunk..head.. CRANIUM .. top..bottom.. EXTREMITIES .. extremes .. beyond rules .. unclassifiable .. UNCLASSIFIED BONES. When he has memorised these Correlations he can recall the four grand divisions forwards and backwards He then proceeds to correlate together all the leading points connected with the first division. There are 33 vertrebræ in the trunk or spine. He fixes this fact thus: TRUNK..box..stone box.. MUMMY [33]. He then correlates the sub-parts together thus: TRUNK.. travelling convenience.. serviceable .. CERVICAL.. service..pecuniary service..endorsement..DORSAL..dormitory ..sleeping apartment..slumber..LUMBAR..barrel..barrels of flour..sacks of flour..SACRAL..sacrifice a cock to Æsculapius.. COCCYGEAL. When he has thoroughly memorised these Correlations, he then deals with each sub-part thus: CERVICAL.. neck..neck yoke..YOKE [7]. In this way he fixes the number of bones or vertebræ in the Cervical region, and in a similar way he deals with the number of bones in the other parts. Then taking the word Vertebræ as his "best known," he correlates to it all there is to be known about it, as the Centrum, Neural ring, Processes, etc., etc., etc. When he finishes Anatomy in this thorough manner, he *knows* it; and he never has to learn it again or review it; and he has spent upon it *but one half the time* he would have spent upon it if learning by rote, with the certainty in that case of having to learn and forget it three or six times more.

Although this thorough method of imprinting impressions takes the *beginner* considerable time, yet he could not in four times the amount of that time make the same permanent impression on his memory by endless repetitions. But this is not all. When he has applied this System in the above way for one or two weeks, he can then accomplish as much in one week as he could without it in a month—with the result of soon forgetting what he had learned by rote, and never forgetting what he had learned by this System.

If the pupil, in endeavoring to understand the subject-matter of his study, cannot use his natural senses, he must use his intellect to secure the meaning or comprehension of it, and here he must incessantly use the method pointed out in Predicating Correlation, and look at the new ideas on all sides of them to make sure that he understands them. If he is learning Geography, he must carefully study the maps—even copy them—or, what is better still, try to copy them from memory, and then compare his ideal copy with the original map, until he can make a nearly perfect map himself from Memory. When he has thus got a correct idea of the Counties of Ireland, for instance, he could then proceed in impressing them on his memory by memorising the following Correlations:—

COUNTIES IN IRELAND.

FOUR PROVINCES.

Ireland..Irish frieze..overcoat..*Ulster* .stir..*Leinster*..lend..money..*Munster*..Cork..no weight..naught..*Connaught*.
Ulster..Ulric Zwingle..preacher..*pew* (9 counties).
Leinster..spinster..*Diana* (12 counties).
Munster..minster..*huge* (6 counties).
Connaught..know nothing..know all..*all* (5 counties).

ULSTER..cloak..fur trimmed..trim..*Antrim*..ant hill..crowded ..London..*Londonderry*..done..don..*Donegal*..galling..tyrannical..*Tyrone*..throne..firmly established..*Fermanagh* .man..*Cavan*..van..fair..many gain..*Monaghan*..agony..poisoned arrows..arms..*Armagh*..armed..light armed..feather..*Down* (...soft..lenient..*Leinster*).

LEINSTER..lint..wounds..cries..loud..*Louth*..mouth..carnivorous..meat..*Meath* .east..*Westmeath*..sheath..long sword..*Longford*..long number..count..*King's County*..*Queen's County*..crown..gold..gild..*Kildare*..daring..knock down..double knock ..*Dublin*..double wick..*Wicklow*..burn low..candle wax..*Wexford*..vex..insult..vulgar..low ..*Carlow*..laid low..killed..*Kilkenny* (..any man..man..*Munster*).

MUNSTER..monster..dragon tail..tip..*Tipperary*..dip in water *Waterford*..swim..safety belt..*Cork*..bottle..wine..sherry..*Kerry*

..Kerry cow..Jersey cow..small..limited..*Limerick*..rick..on fire..glare..*Clare*(..clairvoyant..nothing seen..*Connaught*).

CONNAUGHT..canoe.. boat..galley..*Galway*..may..*Mayo*.. may go..*Sligo*..sly..creeping..stepping lightly..*Leitrim*..rim.. cup..old China..common delf. *Roscommon*.

Of course the towns in each county may be dealt with in a similar manner, for instance:—ANTRIM..*Antrim*..Interim..in the meantime..race..against time .fast..*Belfast*..fast growing..fungus.. *Carrickfergus*..hay carrier..hayfork..pole..spear..arm.. *Glenarm*..armed men..*Ballymena*..*Ballymoney*..*Ballycastle*.

If the subject is intellectual and not in any way directly addressed to the senses, as in History, Political Economy, Logic, etc., the pupil must secure the *comprehension* of the subject by making abstracts of it in his own language, as set forth hereafter.

A few words on three topics not heretofore fully considered:

I.—RETAINING THE CONTENTS OF A BOOK IN ONE READING:—

(1) You will not read the book with the *rapidity* with which some young ladies are said to devour the latest novel! They are often suspected of skipping pages at a time in order to discover the different stages of a plot, until a thoroughly aroused curiosity compels them to hasten at once to the last chapter to fall upon the denouement. This is not the style of perusal I contemplate.

(2) Nor is it to be supposed because you know how the method is to be applied that it will therefore work itself. It has to be *applied* carefully and methodically. This necessarily demands a little time. Those who possess good health and good continuity, and a mastery of the System, accomplish the retention of a work in vastly less time that would be possible for them without this System, and the study has been a pleasure and never a task. On the other hand, those who are in possession of poor health or of weak concentration, or who are overburdened with business anxieties, domestic cares, or competitive worries, would very seldom, if ever, master any book in the ordinary way by *mere repetition*. These persons are extremely unfavorably situated to do justice to this System, and it costs them more time and trouble to master any book than the former class. A student admitted that he had carefully read a manual of English History completely through sixteen times and then failed in the examination. To have obtained

a lasting knowledge of this History by this method would probably have occupied him as long as he was formerly engaged in two or three of the sixteen fruitless perusals of it. There is, however, only this difference between this unfortunate student and the great majority of those who succeed in the examination through *cramming:* He forgot all his historical knowledge *before* the examination—they usually forget theirs shortly *after!* In fact, a student or a man in advanced years who has really mastered any book so that he never has to refer to it again is a wonder! Take the memories of members of the learned professions—they are usually only REFERENCE memories! They know where to *find* the coveted knowledge, but they do not possess it or retain it in their minds. On the other hand, the student who masters a book by this method *really knows* the contents of it, and he is thus enabled to devote to other purposes an enormous amount of time in the future that other people have to spend in *perpetually refreshing* their superficial acquirements. And this is to be added, that the average student who has carried out *all* my instructions can even *now* learn as much by this Method in any stated time as he could learn without this Method, and *with equal thoroughness,* in many, many times as long a period! And if any one who has been pressed for time or who has been in a panic about an impending examination, or who has been too much troubled with Discontinuity, too ill in general health, or too idle, to do more than superficially glance at my lessons—if any such person doubts his competency to accomplish as much as the diligent student of average ability has done, then let him turn back and really and truly MASTER this System [for he does not even KNOW what this System is, unless he has faithfully carried out to the very letter all my instructions], and then and not before he will probably find that the achievements of the average diligent student of this System are quite within the easy range and scope of his own powers.

(3) In regard to the *subject-matter* of the book, you do not care to occupy yourself with what you are already familar with, and in most books are a great many things that you already know. In many works, too, there is a great deal of padding-matter inserted to increase the bulk of the book, and possessing no permanent interest. There is also very much *repetition*—the same matter, in a new dress, is reintroduced for the sake

of additional comments or applications. You do not trouble yourself with these iterations. The contents of a book which demand your attention are the ideas which are NEW to you, or the NEW USES made of familiar ideas.

Students who have not learned to exercise any independent thought often confess that in reading any book they are always in a maze. One thing seems just as important as another. To them the wheat looks exactly like the chaff.

The power to discriminate between the important and the unimportant is greatly increased by making Abstracts of Essays. A great authority on education says, "Any work that *deserves thorough study*, deserves the labor of making an Abstract; *without which indeed the study is not thorough.*" Let the ambitious student make an Abstract of any chapter of John Stuart Mill's Logic, and then compare his work with the Analysis of this same chapter by the Rev. A. H. Killick, and he will at once see the enormous difference between the essentials and the non-essentials—the difference between the subject of discussion and the explanation or exposition of it. The student's abstract, if printed, would extend over twenty to thirty pages. Mr. Killick's only occupies two or five pages. But do not reverse the process and read Mr. Killick's Analysis first, and then make your Abstract. The latter, however, is *the easier*, *the usual* and *the useless* method. Let the student continue this comparison till he attains very nearly the brevity and discrimination displayed by Mr. Killick. Or, if he prefers History, let him make an Abstract of any chapter of Green's Short History of the English People, and then compare his digest with that of Mr. C. W. A. Tait's Analysis of the same chapter. It would be a capital training for the student to abstract the whole of Green's work and compare his abridgment of each chapter with that of Mr. Tait. After considerable practice in this way in making Abstracts and *comparing his work with that of such Masterly Abstractors* as Dr. Killick and Mr. Tait, the student is prepared to make abstracts of his own text books. The difficulties some students meet with in attempting to make Abstracts would be very amusing if they did not indicate an almost total failure of educational training in the matter of *thinking for one's self.* Recently a pupil brought me a work on Physiology, written for general readers, and, pointing to a paragraph in it that occupied nearly a whole page, exclaimed, "The only way I can make an Abstract of that paragraph is to *learn it by heart!*" A glance at it showed me that I could ex-

press the gist and pith of it in the following sentence: "The pulse beats 81 times per minute when you are standing, 71 times when sitting, and 66 times when lying down." After a re-perusal of the paragraph he remarked, "You are right. That is all one cares to remember in that long passage." To his request for me to memorise the Abstract, I replied by asking what is the "Best Known" in it. Why, "pulse," of course. It is merely occupied with the number of times the pulse beats per minute in different positions of the body. Now correlate (memorising your correlations as you proceed) "Pulse" to "standing". and "standing" to a word expressing 81 (feet); "sitting," to a word that translates 71 (caught), and "lying down" to a word that spells in figures 66 (judge). The bodily positions being exhaustively enumerated need not be correlated together. "PULSE..beating..fighting..stand-up fight.. STANDING..stand..small table..table legs..FEET. SITTING ..rest..arrest..CAUGHT. LYING DOWN..lies..perjury..trial ..JUDGE." After making the most careful abstract a poor memory will forget it entirely, and a *first-class memory will not retain it long from merely having made the abstract.* To consolidate and translate the *comprehension* into a *permanent retention* the unfailing power of *Memorised Correlaions* is needed.

These preliminary studies will qualify the young student to distinguish the main ideas from the subordinate ones, and he will then know when reading a book what to attend to and what do reject. Try a short essay first, then a longer one; and at last, when you are familiar with the method attack any book, and you will cope with it suceessfully. And in all your *first* attempts in reading a technical work, make out an Abstract of each chapter in writing, and then deal only with this Abstract. Whenever the subject is not treated in a desultory manner, but with logical precision, you will soon be able to find Suggestive or Prompting words in the Sequence of Ideas and in the successive Links in the Chain of Thought that runs through the exposition. If there is no such sequence of Ideas or Chain of Thought running through it, it may serve as an amusement, but is little likely to command serious study. In a short time you will be able, in the lauguage of Dr. Johnson, "to tear out the heart of any book." Hazlitt said that Coleridge rarely read a book through, "but would plunge into the marrow of a new volume and feed on all the nutritious matter with surprising rapidity, grasping the thought of the author and following out his reasonings to consequences of which he

never dreamt." Such a result is rarely attained even by the ablest of men, but it is the ultimate goal at which every student should aim—an aim in which he will be largely assisted by the ART OF NEVER FORGETTING.

It is the novelties of Fact, Opinion, Illustration, etc., set forth in your Abstract that you correlate together, thus; You correlate the Title of the First Chapter to the Title of the Book; next, the Titles of the Chapters to each other, and then you correlate, in each chapter, the first leading idea or proposition to the title of the chapter, the second leading idea to the first, etc., etc. In this way you will proceed until you have absorbed all the *new ideas, facts, statistics,* or *illustrations* or whatever you wish to retain. You can then test yourself on the work by calling to mind whatever you have thus cemented together. One reason that ordinary readers totally fail in retaining the leading ideas of a book is that they have nothing to which TO TIE the ideas—they have no Method to assist them in the matter of Retention. But when they CORRELATE the Points, Facts, Principles, etc., to Correlating Words found in the text, they seize hold of whatever they wish to remember with an unrelaxing grasp. A *memorised* CORRELATION is the panacea for RETENTION of any and all facts whatsoever. And one book learned in this thorough-going manner will so strengthen the Natural Memory, in both its stages, that Abstracts and Correlations will no more be needed, or only on *exceptional* occasions.

☞ The foregoing exhaustive mode of dealing with a book is recommended to those who possess very weak natural memories not yet made powerfully retentive by this System as a MEMORY-TRAINER. If, however, the pupil possesses a good natural memory, and a mastery of this System as a Device for memorising, and he has also greatly added to the power of his Concentration as well as his memory by doing all the exercises, he will not use this System, even in the reading of the first book, except now and then—certainly not constantly, but only occasionally. Although not necessary in case of good memories strengthened by this Sytsem, yet I do most earnestly recommend the most gifted and highly endowed to deal with *one* book in the above thorough-going manner. The gain to intellectual comprehension from having carefully abstracted it, and the prodigious gain to the memory from having made and memorised so many Correlations, will produce results that will last through life, and make all subsequent acquisitions easy and delighful.

Let no pupil attempt the learning of a book in the way I describe until he has properly done the exercises in the previous lessons—until he has conscientiously gone through this course of Memory-training.

HOW TO LEARN HISTORY.

1. Divide your subject under heads, into groups. Find out the few main decisive events and group the subordinate facts under them. Take the four Invasions of England. Discriminate what they had in common—enlarged Inclusions. Discriminate wherein they differed—enlarged Exclusions. Discriminate and note the accompaniments of each—the producing causes, the resulting effects—enlarged Concurrence. In this way, you assimilate, absorb the real situation, and you vividly impress all the facts on your mind, because you put "brains" into your reading—your Attention is all the time interested, and you thus live over yourself the lives of others—you convert second-hand knowledge into first-hand knowledge; and when you have studied out the subject and condensed it into an abstract, use Correlations to fix it permanently in your mind.

2. On these principles make your abstract, and make it in *as few words as possible*, arranging these words as far as you can in natural sequence, according to the laws of In., Ex. and Con., and on the right half of the page of a good-sized blank book.

3. In a column parallel to the column containing the abstract, write down the chief words of your abstract, connecting them by Correlations where there is no natural connection.

4. Try to keep the general thread of the narrative fairly clear. To do this, it will be necessary to use frequent parentheses.

The student will find that the act of abstracting and methodically arranging the ideas presented to him, will do more to impress them on his memory than six ordinary perusals, and he will be able to abstract the second book he tries almost as rapidly as he would read it in the usual way.

In course of time he will be able to dispense with an elaborate and conscious use of Abstracts and Correlations.

I subjoin Abstract and Correlations as to a portion of the first chapter of Green's "Short History of the English People." As you deal with History, so you would deal with any other work.

HISTORY OF THE ENGLISH PEOPLE.

[The following was sent me by a young lady. If she finishes *one book* in this way, she can read many books hereafter, and

neither make an Abstract or Correlation, and yet infallibly remember them all.]

THE ENGLISH PEOPLE..ENGLISH.. English lion..den .. *Denmark*.. Jutland..*Jutes*..jute. coarse cloth..sackcloth.. *Saxons*.. saxhorn .. thrilling note..tingle..*English*..*common name* ..*unity*..*prominence* .*of one tribe*,

[A. *English people* .. people .. society. *social organisation.*]

SOCIAL ORGANISATION.. socialism .. great landowners..*free landholder*..hold weapon..*weaponed man*. ..*private war*..*Public justice*..penalty..*money compensation*..wrong.. murder..*blood wite*..wight..individual..*family to family*..family ties.. *Blood-bond* (kinsman responsible for each other)..*alliance*..*war*..*peace*.. peaceful occupation—*tilling the land* ..land-holder..*freeholder*..*freeman*.. independent individual,.*independent community*..jealous of boundaries (marches..*mark*)..bound..encircle.. *belt of land*.."land for the people".. common..*common ground* .. burial ground..*death ground*..death .kill.. *kill criminals*..open enemy to law.. *secret* foe.

[B. *Social organisation*..*social orders.*]

SOCIAL ORDERS freeman .. too free..blunt..churlish..*ceorls*. *eorls*.. earls..*noble blood* .. turtle's blood.. *alderman*..elected..*elected leaders*.. leadership.. *Sovereignty* .. sovereign people..*assembly of the people*..*legislation* ..*administration* .. administer..medicine .. bark .. *sacred tree*.. cut down..cut short..debate..moot point..*moothill*..*Wittenagemot*..wit.. wisdom..*Council of wise men.*

The English people came originally from Denmark (Sleswick was then termed England). They consisted of three tribes, the Jutes, the English, and the Saxons. Their common name (the English) indicates their unity and the prominence of one tribe.

The basis of the *Social Organization* of the English was the free-landholder, who was called the "weaponed man," this implying that he had the right to defend himself, the right of private war. There was some idea of public justice, however, in the blood-wite or money compensation paid by the family of the wrong doer to the family of the wronged. Thus arose the blood-bond, all kinsmen being responsible for each other, and this led to alliance both in war and peace. The chief occupation of the English in peace was tilling the land, and the freeman was strictly the freeholder. The communities were as independent as the individuals, and very jealous of their boundaries (called marks), which generally consisted of a belt of waste land, considered as common ground, and used as a death ground, where criminals were executed. Any stranger passing through it secretly might be slain.

Social Orders. There were two social orders, the freemen or ceorls, and the eorls, or men of noble blood, from whom were elected by the people the ealdormen to be leaders in war and peace. The actual sovereignty rested in the whole body of the people, who assembled for purposes of legislation and administration round a sacred tree or round a moot hill, where also the Wittenagemot, or council of wise men assembled.

[C. *Social orders*..priest's orders . priest..*Religion.*]

RELIGION..natural religion..*nature-worship*..(public worship...*priests*... authority.. important.. *unimportant*) ..*chief deity*.,idol..wood.. *Woden*)..woe ..desolation..*war god*..pretext for war ..encroachment..*boundaries*..bound.. bind..book..*letters*..child..old man.. grandfather..*ancestor* of kings)..Woden's day .. *Wednesday* .. *Thursday*.. (*Thor's day*..*Thor*.. *Thunder*..*storm*... *rain*..cool the air..*air*) *Friday*..(*Frea's* day,.freedom..*joy*..*peace*..*prosperity*.. *Fruitfulness*)..*Saturday*..(satyr..*Soctere*) wages..due..*Tuesday*..(*Tew's* day ..hue..dark..*dark god*..gloom..*death*) Easter Tuesday .. *Easter* .. (*Eostre*.. east..*dawn*..rising..*spring*)..resurrection .. *Death goddess*..(fate .. weird *Wyrd*)..sword-wielding woman..*shield maidens*.. breast-plate..heart..core.. *Nicor*..nixy..*water-spirit*..Old Nick.. black.. *smith* .. Wayland* .. *Weland*.. land .. sea..fish .. gill..*Ægil*.. eagle.. feathered..arrow..*archer*,

[D. *English Religion*..England... *Britain.*]

BRITAIN..*invasion of Britain*..*Julius Cæsar*..[seize her..seize goods..sell all (55)..sales..† *sailor* (54)]..*conquest*.. more conquests .. forward .. *Forth* . water..land.. agriculture..*Agricola*.. (rick..*Fire* 84) ..Roman governor..*Roman civilization*..civil..*cities*..streets ..*roads*..intercourse ..*commerce*..natural produce..*agriculture*..ground.. underground..*mining*..gold mines .. *wealth*.. (decayed fortunes.. *decay*).. *landed proprietors* .property..chattels ..*serfs*..absolute power..*despotic government* .. *heavy taxation* .. duties.. *trade*..*tradeguilds*..exclusive..*hereditary caste*..cast down,.broken..divided ..*disunion*..union ..guild..town..*Romanised towns-people*..un-Romanized *country people*..north country..*Northern Britons*. Scotch.. Scots.. *Picts*.. picking and stealing..*raids* . thief..

Religion--The religion of the English was a kind of nature-worship,and consequently the priesthood was unimportant. The chief deity was Woden (from whose name we derive *Wednesday*) the war god, guardian of ways and boundaries, inventor of letters and reputed ancestor of the kings of each tribe.

Thursday is Thor's day. Thor or Thunder was the god of Storm rain, and air.

Friday is the day of Frea, the goddess of joy, peace and fruitfulness.

Saturday is the day of Soctere.

Tuesday--the day of Tew, the dark god, to meet whom was death.

Easter is from Eostre, the goddess of the dawn.

Besides these, among many other mythical figures were the death goddess (Wyrd), the shield maidens, the water spirit, Nicor, Weland the Smith, Ægil the hero archer.

Britain was invaded by Julius Cæsar in the year B.C. 55, and again in B.C. 54; its conquest was completed, as far north as the Forth, by Agricola, A.D. 84. Roman civilisation was introduced. Great cities were built, linked by magnificent roads; commerce thrived, and agriculture and mining flourished. The country became wealthy, but its decay was approaching. The cultivators on the estates of the great landed proprietors sank into serfs, the government was despotic, taxation was heavy, each trade was confined by a trade guild to a hereditary caste, and there was dissension among the Britons themselves. The town-people were Romanised, but the country people remained apart. and the Britons in the North, who were called Picts, made raids on Roman Territory.

The Roman legions were recalled in 411, and Britain, left defenceless

* A character in "Kenilworth."

† The "s" is to remind the pupil that it is 54 and 55 B. C, and not A. D. See Figure Alphabet," page 22.

"stop thief"..call..*recull of legions*..(crowds. crowd round go round..*rotate* 411)..Britain defenceless.. (enemies.. *Picts*..*Scots*..cot.. peaceful.. ire..*Ireland*..home rule. English rule..*English*) *hire defenders*..fender..fire place..ingle..*English*..shipping..rigging..wire *rope* (449)..wire-fence.. poultry yard..hen..*Hengest* and *Horsa*.

against the Picts, the Scots (an Irish tribe), and the English, took the fatal step of hiring her enemies the English. as supporters against her other enemies; and in 449 an English army under Hengest and Horsa sailed from Jutland to Ebbsfleet in the Isle of Thanet.

Let no pupil memorise this before he has read the chapter in Mr. Green's book. The Correlations ought not only to bring to mind the facts in the summary, but the fuller details given in Chapter I. of Mr. Green's valuable work—not the words literally, but the sense entirely. Instead of using the Correlations given here, make your own; and, instead of using the summary given here, make your own digest. A pupil, if he uses someone else's Correlations, is like a man walking on crutches, and if he uses someone else's summary, is like a swimmer on bladders, or a child in leading strings.

Let the thoughtful pupil note the contrast between this method of reading history, and the usual method. In the latter case, the eye may follow the words and sentences and paragraphs, and even pronounce them aloud, and all the time the reader is thinking of something else! He thus gets no *First Impression.* He absorbs but one fact or idea out of 1000! But in using the above Method, the reader must think of the subject matter. He cannot make the abstract if his mind wanders; he thus absorbs all the pertinent ideas in abridging the statement, and he then clinches them and consolidates them in his memory by the memorised Correlations. Althongh a little slow at first, he soon gains speed, and what is more, he soon likes the method, because he remembers what without it he could never retain, and because also he finds the making the abstract and the needful Correlations, and memorising them, are pleasing intellectual occupations. In this way he really does master the history, and he henceforth carries all its facts and events in his head for the rest of his life.

MEMORISING MILITARY TACTICS.

Turning force..mill stream..*river*.. varying depth..danger to bather..*risk*..fear..run..*Bull Run*..flat race..winner..*first*..first lay subject..Lord Chancellor..*Chancellorsville*.

General Sir E. B. Hamley, in his "Operations of War explained," uses the *first* battle of *Bull Run* and the battle of *Chancellorsville*, to illustrate the *risk* run by a force which crosses a

Bull Run..bony bull.."seven lean kine".. seven animals..*seven miles*.. seven *Mills*..*Union mills*..mill stone.. *Stone Bridge*..fixed bridge..fix passage ..*six passages*..at *each passage*..Burlington Arcade..Mississippi arcade..a *Confederate brigade*..*two brigades in reserve*.. reservoir..fish pond .. they FISHED a SHALLOW DOCK 1861, July 17).. deep pool..DIVE (on the the 18)..duck.. fed..*Federals*..union..uniting point.. *Centreville*..focus..burn..black..*Blackburn's Ford*..dark and star-light..Astronomer Mitchell .. *Mitchell's Ford* ..mich.. skulk..*retreat* of Federals.. treat..delicious odor..NOSE (on 20th).. ridge.."*Stonewall*" (Jackson's brigade) ..pier .. Chelsea .. *Mitchell's Ford* Chelmsford..Zulu assegai..sting..*Bee's* brigade..stung hand.. ball blue..behind *Ball's* ford .. rifle ball .. bullet wound..WOUND (on the 21st).. shillelagh..Irish..Mitchell Henry..*Mitchell's Ford*..Portland stone..*Stone Bridge*.. froth and water..suds..*Sudley's Ford*.. ford the Red Sea..Pharoah..dream of fat kine..well-fed vision..*Federal division*..divide dividing line..at *Centreville* (the reserve remained)..centre of body.. stomach..feed carefully .. fed right..*the Federal right*..right to buy.. can afford..(crossed at Sudley's *Ford*.. forge..red hot .. *Red House* .. field.. boundary..*line* .. plummet.. mason.. left at *Stone Bridge*..Bridge of Sighs ..faint sighs..mild laugh..right *a mile and a half* (from the river)..mile race.. ..last in..*last*..cobbler's last..hob nail ..nail-maker..*Kirby Smith*..iron..*rail* .. road..well-fed flogged horse..*Federal-flank and rear*..rear-ing horse.. broken in..Federals *broke*..broken pan ..*panic*.

river to *turn* the enemy's flank.

In the *seven miles* between *Union Mills* (on the Alexandria railway) and *Stone Bridge* (on the road from Alexandria to Warrenton), there are *six passages* over the *Bull Run* stream. A *Confederate brigade* guarded *each* of the six passages (while *two brigades* were in *reserve*) on July 17th, 1861. On the 18*th* the *Federals* marched from *Centreville*, and Tyler's division tried to pass at *Blackburn's* and *Mitchell's Fords*, but was made to *retreat*. On the 20*th* *Stonewall Jackson's brigade* reinforced the Confederates. and was posted in the rear of *Mitchell's Ford* *Bee's brigade* was in the rear of *Ball's Ford*. On *the* 21*st* a *Federal division* marched for *Mitchell's Ford* (Federal left),another for *Stone Bridge* (Federal centre), and another (Federal right) for *Sudley's Ford* (beyond the Confederate left), while the Federal reserve remained at *Centreville*. Of the *Federal right* the advanced guard crossed at *Sudley's* unopposed (and were afterwards met by a part of the Confederate Stone Bridge brigade),and the rear at *Red House*, opposed by Bee's brigade. Eventually the Federals formed *line*, their left at *Stone Bridge* and their right a *mile and a half* from the river, on the Confederate side of it. Supported by reinforcements from the right (including Jackson's brigade), and the *last* brigade from the reserve, the Confederates fought until *Kirby Smith's* brigades of Johnston's force which had arrived by the Manasses *railway*. fell on the *flank and* Early's brigade on the *rear* of the *Federals*, who *broke and fled*. The brigades at M'Lean's Ford and Union Mills, threatening Centreville, increased the Federal *panic*.

REMARKS.--That portion of the above which one person would remember without aid,another person must needs resort to memorised Correlations to fix permanently in mind. Again, the ability to make a good abstract of a chapter or of a book, is often more useful to the reader of a new and unfamiliar work than the ordin-

ary University education. Yet no two abstracts would epitomise the same passage in precisely the same way. Nor, again, would two good Loisettians make Correlations alike or necessarily between the same Extremes of this Abstract- Hence, the foregoing Abstracts and Correlations are offered only as suggestions to the genuine student. But if the inevitable idler and amiable critic exclaims, "All such thoroughness takes time, ' he simply means that he does not wish to learn History at all, for if he really does desire to master it, he knows perfectly well that he could make abstracts, correlate and memorise them, in one hundredth part of the time in which he could possibly learn the same work with equal thoroughness by endless repetitions.

SPEAKING WITHOUT NOTES

is a practice similar to that of *reciting* Riddles, or the seventy-one sentences of the Ratio, the Series of American Presidents, or Kings of England, if he has learned them, except that in speaking without notes you enlarge more or less on each topic; but in reciting Riddles. or the sentences of the Ratio, or a Series of Names and Dates, you pronounce those and those only. A young clergyman is very apt to imagine that he will correlate together 20 to a 100 propositions in every discourse—a theoretical conjecture never verified in fact. In *practice*, he will find that he will very rarely correlate more than ten propositions together, and he will correlate sub-propositions, citations, or illustrations to the respective propositions to which they belong. Each person will manage this matter as he finds most convenient to himself, or, if he desires to literally memorise his discourses, he can do so in the manner pointed out in learning the sentences of the Ratio. But, by one who speaks without notes is generally understood one who has only memorised his leading ideas, and it is always a judicious practice for a beginner to rehearse his leading topics and their amplifications in private *that he may test his memory*, and then *become familiar* with a procedure *in private* in order to be sure to be *perfect in it before the public*. This private discipline is all the more necessary in the early stages of extempore speaking, if the speaker s at all troubled by nervous anxieties or mind-wandering.

After the clergyman has decided on his text, or the speaker on any subject has selected his special topic, the next step is to *think it out*—to make his plan—his mode of levelopment of his ideas—their order and sequence, illustrations, etc. All this will consti-

tute an outline—the SKELETON OF THE DISCOURSE. This should usually be committed to paper. If he possesses the requisite command of language to enable him to express his views, all he now requires to do is to *thoroughly memorise* this Skeleton.

When this is done, the orator will have no occasion to have any notes before him to refer to, and thereby to remind his audience that he is merely rehearsing fervour a week or more old; but, having the exact order of ideas in his memory, he can proceed to speak on each successive topic until he has exhausted all the points and illustrations that he had intended to use.

A speaker, who had learned this System as he claimed, wrote to me that he had carefully memorised a skeleton of a lecture, and when he delivered it, he forgot two important points. To my inquiry how many times he had recited from memory to his friends the Boat Race and the Ratio, so as to secure confidence before others in recalling what he had learned, he replied, "Not once—did not deem it necessary." I then directed him to recite from memory the entire Ratio of 708 figures, at least twenty times before other people, and when he had done this, he more carefully memorised another skeleton of a lecture, and he did not miss a point, although he was interrupted several times. Nor has he forgotten a single point on any occasion since. Those who wish to acquire the *full* power of this System, must faithfully carry out all my directions, and then they will find their reward is much greater than they had hoped for.

As one example *worked out* is worth reams of general direction and precepts, I propose to give a speaker's method of dealing with such a skeleton by the application of this System to the following abstract of a sermon.

2 KINGS, V. 21, 22.

"So Gehazi followed after Naaman, and when Naaman saw him coming after him, he lighted down from the chariot to meet him, and said, Is all well? And he said, All is well; my master hath sent me."

THE HISTORY AND CHARACTER OF GEHAZI.

ABSTRACT.

N. B.—The words in italics are those between which Correla-

tions are necessary.

INTRODUCTION.—

The *Bible*, like the *Sun*, sheds its influence over *all*. *Tells* about subjects more than kings, poor men than rich, *servants* than master: about bad men no less than good: *good* servants—such as *Eleazar*, *Joseph*, *Obadiah*: and *bad* ones no less, among whom, *Gehazi*.

SUBJECT—Gehazi's History *suggests* a *warning*.

I.—HIS CHARACTER—*hypocrisy*. Originally the servant of Elijah, he long succeeded in deceiving Elisha also. *Temptation* at length *made him throw off the mask*.

So *temptation tries all*. The *clear well* is *disturbed* by a *stone*, and the *mud rises*. The *ant's nest* is *touched*, and it is in *commotion*. *Hazael*, an instance of *self-deception:* and *so Gehazi ripened for guilt*.

II.—HIS GUILT.—His *covetousness led* him to *deceive* with a *lie*, 1st *Naaman;* 2nd, his *master*. What *daring*, to *attempt* to *deceive* the Lord's *Prophet!*

III.—HIS PUNISHMENT.—*Leprosy* in his own *person*, and in his *family for ever*.

Its *bitterness threefold;* 1st, *extensive;* 2nd, *intense:* 3rd *immediate*,

IV.—PRACTICAL LESSONS.

(1) *Such characters common*.
(2) Their existence *no argument against religion*.
(3) *Warniny* against *love* of *money*.
(4) Warning against *dishonest business speculations* of the day, as a *path* to *affluence* and *position*.
(5) *Concluding exhortation*.

CORRELATIONS.

☞ The text is first correlated to the title. "*Gehazi.*"

—hazy..obscure..commonalty— *Kings.*
2. V. 21, 22.
Royal hunt..... (=A hen will *hunt* no one

☞ The main Divisions are now connected with the Text by a Correlation between the first of them and the suggestive word of the Text phrase--

Place-hunter..interest..“friend at Court”—1. Introduction.

☞ The Divisions are next correlated to each other; by means of which a rapid survey may be taken of the subject as a whole.

Presentation at Court..King—2. Subject.

Warning from

—lowly..valley..mist..haze—*Gehazi's*

—staff..old age..“tales of a grandfather”—*history*

—historical personage—3. His Character.

—bad character..crime—4. His Guilt.

—verdict..sentence—5. His Punishment.

—birch-rod..schoolboy—6. Practical Lessons.

☞ Lastly, the several points in each Division are correlated to each other, the first of them being in each case connected by a Correlation with the heading of the Division itself. Care should be taken, in addition, to connect by a Correlation the last word of the Abstract in any Division with the Heading of the Division immediately following. It will be sufficient to give an example in the case of the first three Divisions.

I. Introduction.

—Acquaintance..relatives..family—The *Bible.*

—divinity..Sun God—like the *Sun,*

sheds its influence

—Sunday..Sabbath..holy..whole—over *all;*

—omnibus..hotel—it *tells* about

—Tell..apple..application..situation—*servants* more than masters:

—wages..reward..good service—*good* servants,

—child..question..“eh, Sir?”—such as *Eleazar,*

—lazar..leprous..spotted..variegated..coat of many colors—*Joseph,*

—sheaves..Ruth..Obed—*Obadiah:*

(1) and *bad* ones, no less; amongst whom

—weather .haymaking..hay—*Gehazi.*

—servant—

2. SUBJECT. Gehazi's history
—discourse..exhortation..advice—*suggests*
—prompt..timely notice—a *warning.*
—storm signal..sign .hieroglyphic—

3. HIS CHARACTER.
—actor..mask—*Hypocrisy.*
—deceit..subtlety..serpent—*Temptation*
—attempt..do..make—*made him*
—compulsion..restraint—*throw off*
—throw..ball..bal masque—*the mask.*
—disguise..detective..thief..trial—*Temptation*
—drink..adulteration..tests—*tries*
—judge..judgment hall—*all.*
—altogether..decided—The *clear*
—leap over..spring—*well*
—ill..calamity..distressed—is *disturbed*
—broken rest..broken pane—by a *stone*
—pebble..gravel..soil—and the *mud*
muddy water..spring—*rises;*
—early rising..sluggard—the *ant's*
—insect..leaf..twig—*nest*
—egg..yoke..ox goad—is *touched,*
and it is in
—stirred..disturbance—*commotion.*
—motion..wheel..nut..hazel—*Hazael,*
an instance
—a sale..mock auction..deception—of *self-deception.*
—deceit..seat..set—*So*
—tears..a sob..a sigh—*Gehazi*
—gaze..peer..pear—*ripened*
—seasoned..hardened..criminal—*for guilt*

☞After two or more Abstracts or Skeletons have been worked out carefully in this exhaustive manner, less pains will thereafter suffice. As the pupil's memory grows stronger and his confidence in the method increases, he will need to correlate together only a few catchwords.

HOW TO USE THE "LOISETTIAN SPY-GLASS"

The following is an account, by one of my students, of a Feat

of Memory that my pupils have performed for many years, although this particular one is the first to call it the "LOISETTIAN SPY-GLASS:"—

One evening at a party, I conceived the idea of what I call the "Loisettian Spy-Glass." I challenged the company to elect one of its number to place fifty different articles on a table in a private room, and then the entire company was to be invited into the room, and all of us were to have just time enough given to take a deliberate look at each article, when we were to return, and I would be the only one who could remember and mention all the fifty articles. The trial was made, and I alone was successful. The highest number reached by anyone else was nineteen! To the question, "How could you remember them all?" my reply was, "I looked at the articles through the "Loisettian Spy-Glass," or, in plain language, *the Loisettian System had enabled me to remember them all.* Since then I have successfuly remembered 100 such articles after little more than a glance at them. In short, I believe I could take a mental inventory of a small Civil Service store, and unfailingly remember every article, without making a single mistake.

Taking a hint from the foregoing, another pupil sends me the following list of articles, which had been placed on a table in a private room, *which he correlated together*, and was thereby enabled to remember without mistake—the highest number remembered by his most successful competitors being only fifteen.—

FIFTY ARTICLES ON THE TABLE.

Opera-glass . . corkscrew. . hammer . . ring . . scissors . . key . . flower. . doll. . duster. . bracelet. . book. . Noah's ark. . mouse-trap. . boot. . collar. . string . . music. . ruler . . wig. . filter. . bun. . forceps. . sandwich. . egg-boiler . . pen. . cheese. . lace. . egg. . chalk. . shell. . letter-weight. . gum bottle . . slate. . fig. . glove. . work-box. . ball. . trumpet. . pack of cards. . flat iron . warming-pan. . counters. . time-piece. . gimlet. . diary . newspaper. . skipping-rope . . map. . chess-board. . tippet. .

These are his own Correlations—by means of which he remembered all the articles:—

OPERA GLASS. . Glass. . bottle. . cork. . CORKSCREW. . Screw. . nail . HAMMER. . Hamper. . luncheon . . dinner. . bell . . RING. . finger . nail. . SCISSORS . . Cutter . . boat. . river. . quay . . KEY. .

bunch..bunch of flowers..FLOWER..Petal..pet..idol..DOLL.. Sawdust..DUSTER..Dust..road..race..brace..BRACELET.. Let..letters..printing..BOOK..Leaf..tree..bark..ark..NOAH'S ARK..Ararat..rat..rat-trap..MOUSE-TRAP..Mouse..cat..puss ..''Puss in Boots''..BOOT..Lace..lace-collar..COLLAR..Neck ..necktie..tie..STRING..Fiddle-strings..MUSIC..Bar..iron.. iron ruler..RULER..King..crown..head..WIG..False hair.. fall..waterfall..water..FILTER..Charcoal..wood..bundle of wood..bundle..BUN..Bonnet..head..forehead..FORCEPS.. Force..forcemeat..meat..SANDWICH..Sand..sandglass..EGG BOILER..Egg..chicken..bird..plume..quill..PEN..Nib..nibble..CHEESE..Cheesemonger..hunger..appetite..tightlacing.. LACE..Lay..lay an egg..EGG..White of egg..white..CHALK ..Cliff..sea-shore..shells..SHELL..Fish..scales..LETTER WEIGHT..Letter stamp..gum label..GUM BOTTLE..Gums.. mouth..roof of mouth..roof..SLATE..Sum..figures..FIG..Date palm..hand..GLOVE..Boxing..box..WORK BOX..Cotton.. reel..dance..BALL..Toss..bull..horn..TRUMPET..Trnmp.. whist..cards..PACK OF CARDS..Cardboard..board..ironing.. FLAT IRON..Flat..pancake..pan..WARMING PAN..Bed.. counterpane..COUNTERS..Coin..mint..thyme..TIME-PIECE ..Time..mark time..drill..hole..GIMLET..Let..''Letts' Diary'' ..DIARY..Chronicle..''Daily Chronicle''..NEWSPAPER.. Lines..rope line..rope..SKIPPING ROPE..Rope..Europe.. Map of Europe..Map..World..round..square..CHESS BOARD ..Boa..fur..TIPPET.

CAUTION.—Let the pupil not attempt to do this Feat until he has repeated before others from memory at least ten to twenty times The Knight's Tour, The Ratio, and one or two other exercises that I may have given him. When he can *think* and *recall* past thoughts readily in the presence of others, when his *retentiveness* has been greatly improved by his having *made* and *memorised* a great many Correlations, then he can do this Feat with invariable success, commencing with twenty-five articles, gradually increasing in number till he can remember 100. When challenged to show what he can do, let him challenge his challenger to take part in this Feat, and he will beat him every time; since his challenger will have no method to assist him and no Correlation to make his memory infallible. Let the ambitious student perform this Feat as often as possible, not merely to astonish his friends, but to gain *confidence* in the use of his memory, and readiness in

the application of this Method—results which will go far to make him successful in any walk of life. When any of my pupils is challenged to prove what he can do, the true test is not to compare his efforts with what has been told his critics, or what they have read about anyone else; but, the only honest criterion is between what he could do *before* learning this System, and what he can do *now* in the same time.

☞ACCUMULATIONS of FACTS, PRINCIPLES, CITATIONS, ILLUSTRATIONS, PROVERBS, ANECDOTES, etc., on *any particular subject.*

Suppose you recognise the fact that you are a social being, you will then realize the duty of becoming an *entertainer.* By my Art, you can soon accumulate and have at instant command hundreds of anecdotes, conundrums, etc. (1) The first thing to be done is to memorise, say for instance the following Riddle:—"Why was Noah the greatest financial genius ever known? Because he managed to float a Company of Limited Liability whilst the rest of the world was in liquidation." You might make two or three Correlations, and, by memorising them, infallibly remember the conundrum and its answer. But, for the sake of illustration, I will correlate together all the principal words, thus: WHY. .*knows why*. .*know*. . NOAH. .*flood*. .*fire*. .*grate*. . GREATEST. .*smallest*. .*fine*, . FINANCIAL. .*money*. .*money-king*. .*clever-head*. . GENIUS . .*fool*. . "*yes, no*". KNOWN. .*well-known*. .*well-being*. .*bee*. . BECAUSE. .*cause*. .*bringing to pass* .*manager*. . MANAGED. .*man*. .*man of war*. . FLOAT. .*buoy single*. COMPANY. .*accompaniment*. .*music*. .*stop*. .*limit*. . LIMITED. .*limited responsibility*. . LIABILITY. .*lie*. .*lie down*. .*rest*, . REST OF THE WORLD. .*globe*. .*water*. .*liquid*. . LIQUIDATION, or using Interrogative Analysis exhaustively for illustrating, thus: What indicates this to be an enquiry?—"*Why* was Noah the greatest financial genius ever known?" Is this enquiry made in regard to the present, past or future?—"Why *was* Noah the greatest financial genius ever known?" In regard to whom is the question asked?—"Why was *Noah* the greatest financial genius ever known?" What enquiry is made concerning Noah?—"Why was Noah the greatest financial *genius* ever known?" In regard to what was Noah the greatest genius?—"Why was Noah the greatest *financial* genius ever known?" In what degree was Noah a financial genius?—"Why was Noah the *greatest* financial genius ever known?" Does this enquiry imply that there has often been such a genius?—"Why

was Noah the greatest financial genius *ever* known?" Was the existence of this genius a matter of conjecture or of positive knowledge?—"Why was Noah the greatest financial genius ever *known?*" How do you know that he possessed this great financial genius?—"*Because he managed to float a company of limited liability whilst the rest of the world was in liquidation.*" Who managed to float a company?—"Because *he* (Noah) managed to float a company of limited liability whilst the rest of the world was in liquidation." What did Noah do in regard to this company?—"Because he managed to *float* a company of limited liability whilst the rest of the world was in liquidation." Was it as manager or otherwise that he succeeded in floating the company?—"Because he *managed* to float a company of limited liability whilst the rest of the world was in liquidation." What did he manage to float? "Because he managed to float *a company* of limited liability whilst the rest of the world was in liquidation." What kind of company did he manage to float?—"Because he managed to float a company of *limited liability* whilst the rest of the world was in liquidation." When did he manage to float this company?—"Because he managed to float a company of limited liability *whilst* the rest of the world was in liquidation." Whilst he floated this company, was there anything not floated or in liquidation?—"Because he managed to float a company of limited liability whilst *the rest* of the world was in liquidation." The rest of what was in liquidation?—"Because he managed to float a company of limited liability whilst the rest of the *world* was in liquidation." Is the assertion made of the rest of the world?—"Because he managed to float a company of limited liability whilst the rest of the world *was* in liquidation." In what condition was the rest of the world?—"Because he managed to float a company of limited liability whilst the rest of the world was in *liquidation.*"

In this manner, with as many or as few Correlations or Interrogations as he finds needful, the pupil will always first memorise the citation, adage, anecdote, riddle, or whatever else he wishes to remember. (2) The next step is to Correlate the *first* anecdote, citation, illustration, etc., to the *class* to which it belongs, and through which you must *think* to get to it by correlating the prompting or suggestive word to that class. In the case of the above riddle, the class would be the word Financial or Financial Genius, and to this you would correlate the word Noah; or you could start, as I do in the case of the following Riddles, and con-

nect the prompting word "wrathful" in the first riddle to the word riddle itself, and the word "wrathful" to the Prompting word in the next. to wit, "sneeze," and so on till hundreds of riddles are cemented together, always presuming that the student first memorises a riddle when he first meets it, as I did the "Noah" riddle above. Similarly, he can tie up hundreds or even thousands of facts to the class to which they belong, doing one at a time as he finds them. In this way, any one could easily learn an entire book of anecdotes, a dictionary of quotations, masses of facts, experiments, etc., by correlating them to the classes to which they belong, and then stringing together all those that come under that class, as these Riddles are united together below.

RIDDLES.

[..questions..disputing..quarrelsome..]

1. Why is a *wrathful* man exactly like 59 minutes past 12? Because he is just upon the point of striking one (1).

[..hot-tempered..hot..cold..]

2. When does a man invariably *sneeze* five times in suceession? When he cannot help it.

[..tissue..fibres..string..]

3. When is a *bonnet* not a bonnet? When it becomes a woman.

[..head..nail..hammer..]

4. Why is a *blacksmith* the most dissatisfied of mechanics? Because he is always striking for his wages.

[..Smith O'Brien..]

5. Why is an *Irishman* rolling over in the snow like a mounted policeman? Because he is pat-rolling.

[..Emerald Isle..lapidary.."cut"..

6. Why is a game of *cards* like a timber yard? Because there are always a great many deals in it.

[..advertisement .quack..]

7. Why do *ducks* put their heads under water? For divers reasons.

MENTALLY REPORTING SERMONS OR LECTURES.

In these cases you correlate together the leading Propositions, Facts, or Illustrations which you wish to remember. The process is exactly the same as that pursued with the Riddles or the sentences of the Ratio, with this difference, that the Riddles and the

sentences of the Ratio are selected for you, but, in mentally reporting, you have to make your own selection of the Points or Topics of the discourse you wish to report, No one would attempt to remember all the *words and sentences* spoken. It is only the leading ideas you wish to carry away. But even then you have a triple work to do. You have to *select* your Propositions to be rememb red and also the *Suggestive Words* in them, and then *correlate* together these Suggestive Words, and all the time you are doing these onerous feats, you are *anxious* lest you may omit some important remark or ideas. Some people are so troubled with this nervous anxiety that all their efforts to think, select, and correlate are completely paralysed. But let not the most courageous and steady of nerve attempt too much the first time he tries, nor even the second or tenth time. "Make sure of a few things, even although you lose many things," should be his motto, until he can coolly plan and rapidly execute, But let no one attempt to report an address until he can make Correlations very rapidly, and until he has had genuine practice in making abstracts of essays, chapters, etc. That secures a mastery of the method to be used, and its application to Mental Reporting becomes thenceforth easy and delightful if he can restrain all nervous anxieties. ☞The best Method for the beginner is to take careful notes while listening, and then on his way home, or immediately on reaching home, let him thoroughly memorise his notes by this System, and not lay his notes aside, as is usually done, with the resolve, rarely carried out, of memorising them subsequently. But let him memorise them while the matter is all fresh in his mind. In this way he soon strengthens his Natural Memory and his power of abstracting to such a degree that he can listen and take away with him everything he desires to remember. And, on all occasions, let him give an account to some one of the lecture, and with as much detail as possible. After his memory has been thus developed and strengthened to its utmost, he will not have to use Correlations or Interrogative Analysis and Abstracts. Successful Mental Reporting is one of the final and crowning triumphs of the Art of Never Forgetting.

MEMORY AND SUCCESS.—If a manufacturer is about to engage 1000 men, what is the secret principle that guides his choice, always assuming that the applicants are trained to their business? It is: "Can they remember to do exactly as they are told to do?" And if, from pressure of hard times, he is obliged to

discharge half of them, who have to go? Those whose treacherous memories prevent their remembering their instructions, and who are always or occassionally offering excuses for omissions, blunders, or mistakes. And the same course is taken in every other department of life. In short, the highest success is possible *with* a good memory: impossible without it. And failure always haunts the steps of those possessing unreliable memories.

THE OXFORD AND CAMBRIDGE UNIVERSITY BOAT RACE.

DATE	WINNER	DATE	WINNER
1829	OXFORD	1865	OXFORD
[1831 *]		1866	OXFORD
[1835 †]		1867	OXFORD
1836	CAMBRIDGE	1868	OXFORD
1839	CAMBRIDGE	1869	OXFORD
1840	CAMBRIDGE	1870	CAMBRIDGE
1841	CAMBBIDGE	1871	CAMBRIDGE
1842	OXFORD	1872	CAMBRIDGE
1845 ‡	CAMBRIDGE	1873 ††	CAMBRIDGE
1846 §	CAMBRIDGE	1874	CAMBRIDGE
1849 ‖	CAMBRIDGE	1875	OXFORD
1849 ‖	OXFORD	1876	CAMBRIDGE
1852	OXFORD		
1854	OXFORD	1877 ‡‡	OXFORD / CAMBRIDGE
1856	CAMBRIDGE	1878	OXFORD
1857 ¶	OXFORD	1879	CAMBRIDGE
1858	CAMBRIDGE	1880 §§	OXFORD
1859 **	OXFORD	1881	OXFORD
1860	CAMBRIDGE	1882	OXFORD
1861	OXFORD	1883	OXFORD
1862	OXFORD	1884 ‖‖	CAMBRIDGE
1863	OXFORD	1885	OXFORD
1864	OXFORD	1886	CAMBRIDGE

* Not rowed owing to prevalence of Cholera

† The challenge of 1834 still unaccepted.

‡ First race over the Putney and Mortlake Course.

§ First race rowed in outriggers.

‖ In this race there was a "Foul"—that is a collision between the Boats, and it was rowed over the same year, each University winning a race.

¶ First Race in the present style of Boats without keels.

** The Cambridge Boat sank.

†† Sliding seats used for the first time.

‡‡ The Race was a Dead Heat. The Oxford bow-man caught a crab, and sprung his oar when leading.

§§ Rowed on Monday because of fog on Saturday. The first race that was postponed.

‖‖ Rowed on Monday, owing to Prince Leopold's Funeral taking place on the Saturday.

KINGS OF ENGLAND BEFORE THE CONQUEST.

Egbert	827 to 837	Edward II., The Matyr	975 to 979
Ethelwolf	837 to 857	Ethelred II.	979 to 1013
Ethelbald	857 to 860	Sweyn	1013 to 1014
Ethelbert	860 to 866	Canute the Great	1014
Ethelred I.	866 to 871	Ethelred II. [restored]	1014 to 1016
Alfred the Great	871 to 901	Edmund II. Ironside and Canute	1016 to 1017
Edward I., The Elder	901 to 925		
Athelstan	925 to 940	Canute [alone]	1017 to 1035
Edmund I.	940 to 946	Harold I,, Harefoot	1035 to 1040
Edred	946 to 955	Hardicanute	1040 to 1042
Edwy	955 to 958	Edward III. The Confessor	1042 to 1066
Edgar, The Peacable	958 to 975	Harold II.	1066

KINGS OF ENGLAND SINCE THE CONQEST.

William I.	1066 to 1087	Edward VI.	1547 to 1553
William II.	1078 to 1100	Mary,	1553 to 1558
Henry I.	1100 to 1135	Elizabeth,	1558 to 1603
Stephen	1135 to 1154	James I.	1603 to 1625
Henry II.	1154 to 1189	Charles I.	1625 to 1649
Richard I.	1189 to 1199	Commonwealth	1646 to 1653
John	1199 to 1216	Cromwell	1653 to 1658
Henry III.	1216 to 1277	Richard Cromwell	1658 to 1659
Edward I.	1272 to 1307	Interregnum	1959 to 1660
Edward II.	1307 to 1327	Charles II.	1660 to 1685
Edward III.	1327 to 1377	James II.	1685 to 1689
Richard II.	1377 to 1399	William III.	1689 to 1702
Henry IV.	1399 to 1413	Anne	1702 to 1714
Henry V.	1413 to 1422	George I.	1714 to 1727
Henry VI.	1422 to 1461	George II.	1727 to 1760
Edward IV.	1461 to 1483	George III.	1760 to 1820
Edward V.	1483	George IV.	1820 to 1830
Richard III.	1483 to 1485	William IV.	1830 to 1837
Henry VII.	1485 to 1509	Victoria	1837
Henry VIII.	1509 to 1547		

THE RATIO OF THE CIRCUMFERENCE TO THE DIAMETER EXPRESSED BY THE INTFGER 3, AND 707 DECIMALS READING FROM LEFT TO RIGHT

	3	1	4	1	5	9	2	6	5
3	5	8	9	7	9	3	2	3	8
4	6	2	6	4	3	3	8	3	2
7	9	5	0	2	8	8	4	1	9
7	1	6	9	3	9	9	3	7	5
1	0	5	8	2	0	9	7	4	9
4	4	5	9	2	3	0	7	8	1

6	4	0	6	2	8	6	2	0	8
9	9	8	6	2	8	0	3	4	8
2	5	3	4	2	1	1	7	0	6
7	9	8	2	1	4	8	0	8	6
5	1	3	2	8	2	3	0	6	6
4	7	0	9	3	8	4	4	6	0
9	5	5	0	5	8	2	2	3	1
7	2	5	3	5	9	4	0	8	1
2	8	4	8	1	1	1	7	4	5
0	2	8	4	1	0	2	7	0	1
9	3	8	5	2	1	1	0	5	5
5	9	6	4	4	6	2	2	9	4
8	9	5	4	9	3	0	3	8	1
9	6	4	4	2	8	8	1	0	9
7	5	6	6	5	9	3	3	4	4
6	1	2	8	4	7	5	6	4	8
2	3	3	7	8	6	7	8	3	1
6	5	2	7	1	2	0	1	9	0
9	1	4	5	6	4	8	5	6	6
9	2	3	4	6	0	3	4	8	6
1	0	4	5	4	3	2	6	6	4
8	2	1	3	3	9	3	6	0	7
2	6	0	2	4	9	1	4	1	2
7	3	7	2	4	5	8	7	0	0
6	6	0	6	3	1	5	5	8	8
1	7	4	8	8	1	5	3	0	9
2	0	9	6	2	8	2	9	2	5
4	0	9	1	7	1	5	3	6	4
3	6	7	8	9	2	5	9	0	3
6	0	0	1	1	3	3	0	5	3
0	5	4	8	8	2	0	4	6	6
5	2	1	3	8	4	1	4	6	9
5	1	9	4	1	5	1	1	6	0
9	4	3	3	0	5	7	2	7	0
3	6	5	7	5	9	5	9	1	9
5	3	0	9	2	1	8	6	1	1
7	3	8	1	9	3	2	6	1	1
7	9	3	1	0	5	1	1	8	5
4	8	0	7	4	4	6	2	3	7
9	9	6	2	7	4	9	5	6	7

3	5	1	8	8	5	7	5	2	7
2	4	8	9	1	2	2	7	9	3
8	1	8	3	0	1	1	9	4	9
1	2	9	8	3	3	6	7	3	3
6	2	4	4	0	6	5	6	6	4
3	0	8	6	0	2	1	3	9	5
0	1	6	0	9	2	4	4	8	0
7	7	2	3	0	9	4	3	6	2
8	5	5	3	0	9	6	6	2	0
2	7	5	5	6	9	3	9	7	9
8	6	9	5	0	2	2	2	4	7
4	9	9	6	2	0	6	0	7	4
9	7	0	3	0	4	1	2	3	6
6	8	8	6	1	9	9	5	1	1
0	0	8	9	2	0	2	3	8	3
7	7	0	2	1	3	1	4	1	6
9	4	1	1	9	0	2	9	8	8
5	8	2	5	4	4	6	8	1	6
3	9	7	9	9	9	0	4	6	5
9	7	0	0	0	8	1	7	0	0
2	9	6	3	1	2	3	7	7	3
8	7	3	4	2	0	8	4	1	3
0	7	9	1	4	5	1	1	8	3
9	8	0	5	7	0	9	8	5	

The foregoing is a computation of the Ratio of the Circumference of a Circle to its Diameter [the Diameter being 1], made by Mr. WILLIAM SHANKS, of Houghton-le-Spring, Durham, founded upon a formula of Machin's.

☞To recite even 150 of the Figures of this Ratio in the exact order is a feat practically impossible to the unassisted Natural Memory.

COMPLETE LIST OF DERBY WINNERS,

From 1780 to 1886.

Diomed.....1780	Aimwell.....1785	Rhadamanthus.....1790
Young Eclipse.....1781	Noble.....1786	Eager.....1791
Assassin.....1782	Sir Peter Teazle.....1787	John Bull.....1792
Saltram.....1783	Sir Thomas.....73	Waxy.....1793
Sargeant.....1784	Skyscraper.....1789	Dædalus.....1794

Spreadeagle.....1795
Didelot 1796
Pharamond's Sister's Colt.....1797
Sir Harry.....1798
Archduke.....1799
Champion 1800
Eleanor.....1801
Tyrant.....1802
Ditto.....1803
Hannibal 1804
Cardinal Beaufort...1805
Paris.....1806
Election.....1807
Pan.....1808
Pope.....1809
Whalebone.....1810
Phantom 1811
Octavius.....1812
Smolensko.....1813
Blucher 1814
Whisker.....1815
Prince Leopold.....1816
Azor.....1817
Sam.....1818
Tiresias.....1819
Sailor.....1820
Gustavus 1821
Moses.....1822
Emilius.....1823
Cedric 1824
Middleton 1852

Lapdog.....1826
Mameluke.....1827
Cadland.....1728
Frederick.....1829
Priam.....1830
Spaniel.....1831
St. Giles.....1832
Dangerous 1833
Plenipotentiary.....1834
Mundig.....1835
Bay Middleton.....1836
Bosphorus.....1837
Amato.....1838
Bloomsbury.....1839
Little Wonder.....1840
Coronation.....1841
Attila..... 1842
Cotherstone.....1843
Orlando.....1844
Merry Monarch... .1845
Pyrrhus the 1st.....1846
Cossack 1847
Surplice 1848
Flying Dutchman...1849
Voltigeur.....1850
Teddington.....1751
Daniel O'Rourke....1852
West Australian....1853
Andover.....1854
Wild Dayrell.....1855
Ellington.....1856

Blink Bonny.....1857
Beadsman 1358
Musjid.....1859
Thormanby.....1860
Kettledrum 1861
Caractacus 1862
Macaroni.....1863
Blair Athol.....1864
Gladiateur 1865
Lord Lyon.....1866
Hermit 1867
Blue Gown 1868
Pretender.....1869
Kingcraft.....1870
Favonius.....1871
Cremorne.....1872
Doncaster.....1873
George Frederick...1874
Galopin.....1875
Kisber.....1876
Silvio 1877
Sefton 1878
Sir Bevys.....1879
Bend Or.....1880
Iroquois.....1881
Shotover.....1882
St. Blaise.....1883
St. Gatien } 1884
Harvester }
Melton.....1885
Ormonde 1886

THE END.

LIBRARY OF CONGRESS
0 021 092 690 2